Paper TRADE JOURNAL

APRIL 21, 1949

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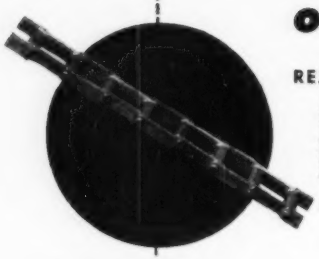
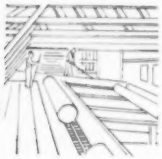
Chain Facts

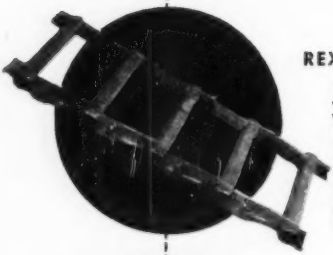
on REX pulp mill chains



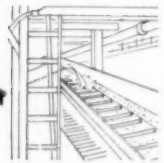
REX COMBINATION AND DUROBAR CHAINS



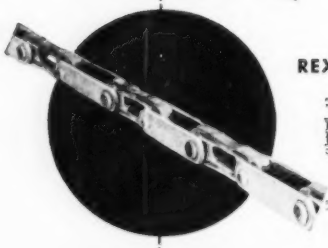
are husky chains with inside block links of malleable iron or Rex Z-Metal and side bars blanked from high carbon steel. Side bar pin holes are accurately punched for correct pitch and good drive fits. Milled flats on the ends of the pins prevent turning in the side bars and prolong chain life. Durobar Chains have reinforced outer barrel faces which eliminate rolling, grinding contact with sprocket teeth and thus reduce chain wear.



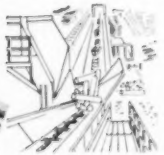
REX H-TYPE CONVEYOR CHAINS



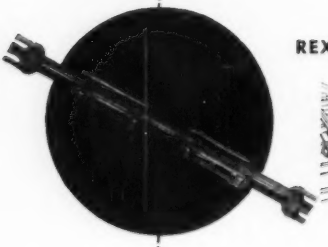
offer an efficient, economical means for conveying slabs, sawdust and other mill refuse. Operating in shallow troughs, these chains, because of their great width, offer the advantage of large capacity at low speeds. Chain links are one-piece castings. Inner barrel faces are designed for smooth operation over sprockets. Outer barrel faces are designed to act as scrapers. Wide wearing shoes, cast on the side bars, take the sliding wear, and vertical lugs reinforce and protect rivet ends.



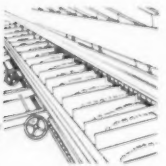
REX MILL REFUSE AND LOG CONVEYOR CHAINS



are stronger, tougher chains designed specifically for longer life under the pounding of logs and slabs. Alternating wide cast block links and steel side bar links combine rugged strength and a large sliding surface as well as maximum bearing area on the rivets. Cast block links are of heavy design, reinforced with two struts that provide a sturdy anchorage for scraper or chair attachments.



REX DROP FORGED CHAINS



are preferred for log haul and refuse conveyor service where high strength and relatively low cost are desired. Drop Forged Chains are flexible in two directions, and assembly and disassembly can be made without the use of tools. Chain parts are forged from high carbon steel and are carefully designed for large bearing areas and wearing surfaces. Links can be turned over to provide a new sliding surface after long service.

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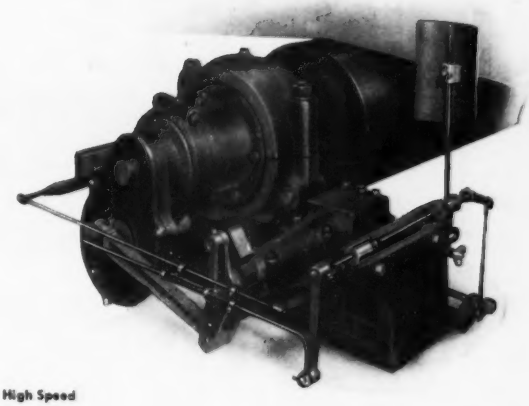

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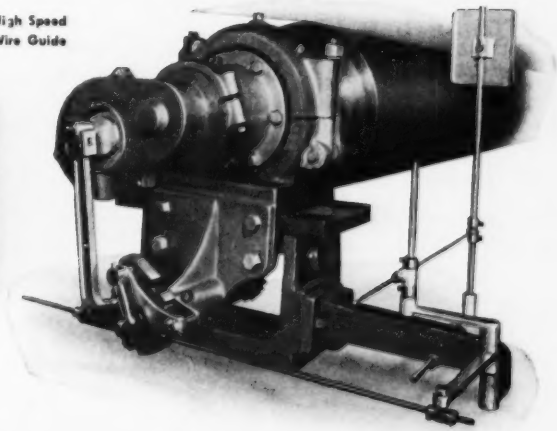

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MEMBER

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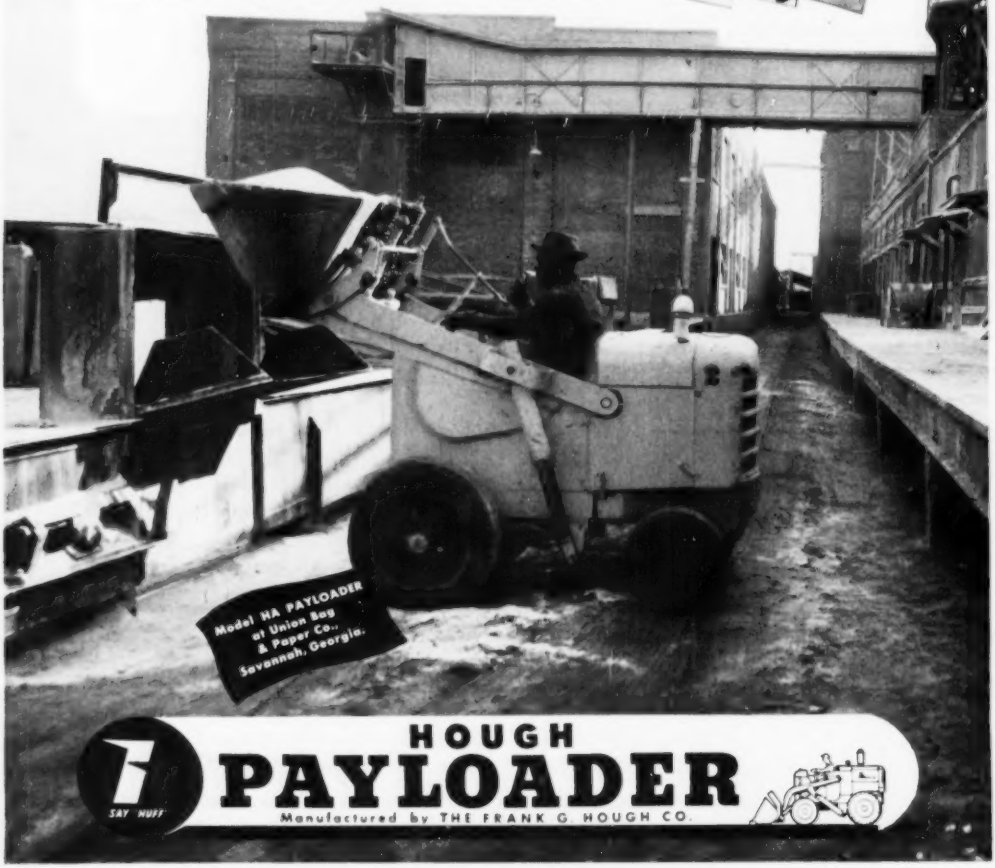

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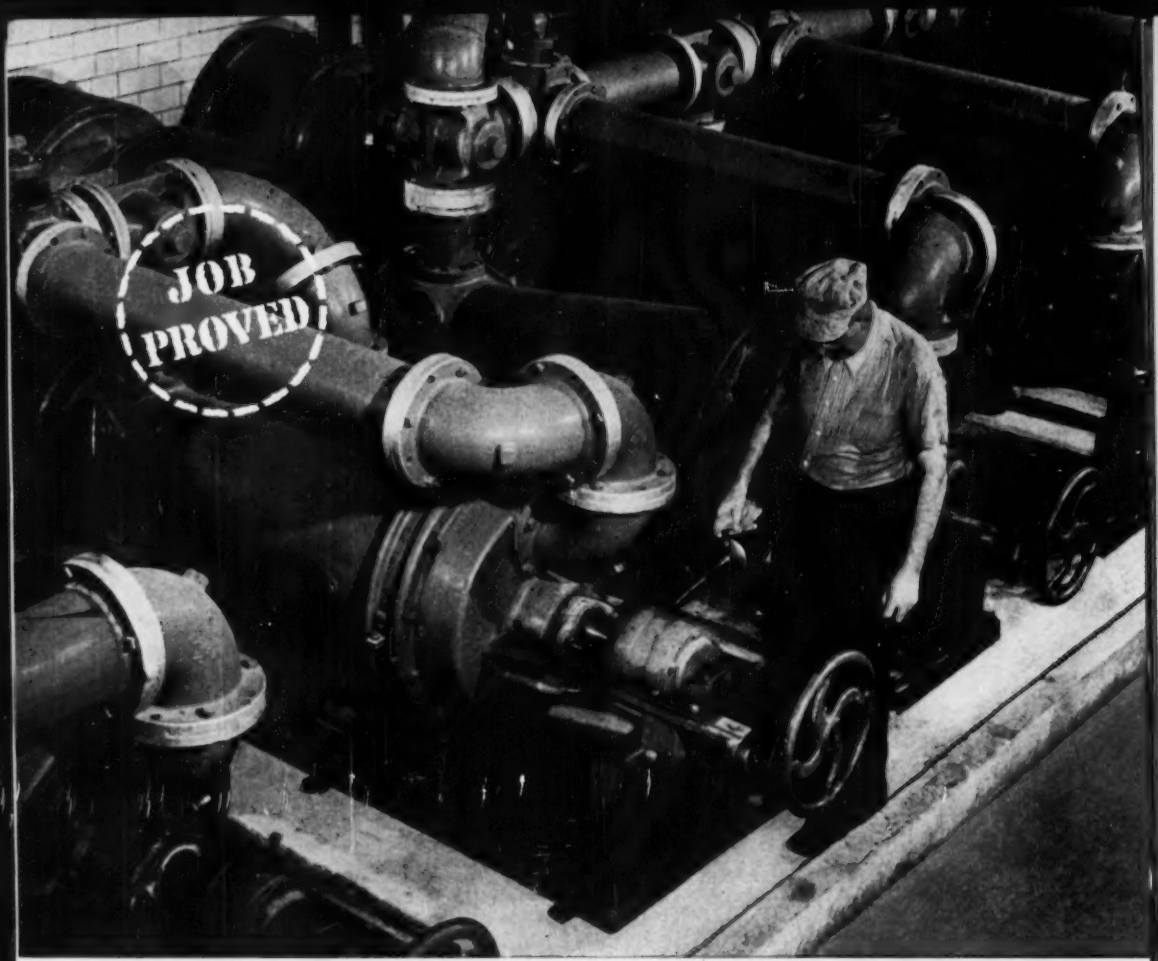

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Paper Mill's Jordans, Burning Out Average of 2 Bearings a Week, Are Switched to Sun Oil, Run Almost 2 Years Without a Failure

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Paper TRADE JOURNAL

APR. 21, 1949

VOL. 128, NO. 16

Sweden's Gustaf V Knights D. Samuel Gottesman

NEW YORK — D. Samuel Gottesman, president of Gottesman & Co., Inc., and of the Central National Corp., was presented on April 11 with the insignia of the Swedish Royal Order of the North Star, with the rank of Knight First Class, bestowed on him by King Gustaf V of Sweden. The order of the North Star was founded in 1748 and is especially designed to be a token of Sweden's appreciation for accomplishments in the field of literature and education.

The presentation was made at the Swedish Consulate General here by Swedish Consul General Lennart Nylander in the presence of His Excellency Erik Boheman, the Royal Swedish Ambassador to the United States. In making the presentation, Consul General Nylander stated the award was in recognition of Mr. Gottesman's achievements in strengthening cultural relations between the United States and Sweden, particularly the establishment in 1947 of the Gottesman Lectureship at the University of Upsala, Sweden. In responding, Mr. Gottesman said:

"I am overwhelmed by the gracious and profound remarks of Consul General Nylander and the presentation to me of this signal honor. I would be less than frank if I failed to express my delight and sincere appreciation of this high honor which His Majesty, the King of Sweden, has seen fit to bestow upon me. I am very happy to see in the gathering our good friend, Professor Stanley Williams, who made a real contribution at Upsala in expounding the fundamentals underlying the American way of life and the meaning of American democracy. I am also happy to see with us today Judge Sandstrom whose active and sympathetic work as Chairman of the United Nations Commission in 1947 made such a deep impression and whose report added a new and brilliant chapter in Swedish international affairs and helped crystallize my decision to make the original contribution. I hope you will forgive me if I express some thoughts that are prompted by the occasion. The administration of human affairs has fallen behind our technological advances, with the result that the physical and moral self-destruction of the human race is in the air. It is not to science that we must turn for guidance but to the humanities—to the several fields of learning having to do with the social and moral fibres of our people. We must develop the ethical, cultural and philosophical values and learn from history and literature. In that way we can build up the liberalism and understanding that is so necessary to win the race against the weapons of man's own creation. It is to be hoped that the series of lectures in the humanities which are being given at Upsala University in Sweden, to which Consul General Nylander so kindly referred, will be of assistance in pointing the way. It may be fortunate that Upsala was selected as the place to present a philosophy of reason and moral law in contrast to the law of the jungle, and it might not be too optimistic to hope that because of its geographical proximity, something might penetrate the Iron Curtain. My admiration and esteem for Sweden and the Swedish people comes from an intimate contact and association that covers a period of more than a quarter of a century. This decoration will ever serve as a constant reminder of an illustrious King whose great vision and wise statesmanship have contributed to a brilliant record as a great humanitarian."

The gathering at the Swedish Consulate General included Judge Samuel Rosenman, Professor Stanley T. Williams, Professor Edward Corwin, and prominent bankers and industrialists. Mr. Gottesman was also presented with a medallion, the gift of the president of the University of Upsala. Mr. Gottesman is president of the Gottesman Foundation and a director of various corporations including Eastern Corp and Rayonier, Inc.

D. SAMUEL GOTTESMAN

D. Samuel Gottesman (center) wearing insignia of the Swedish Royal Order of the North Star, presented to him by Swedish Consul General Lennart Nylander (right), in presence of Erik Boheman (left), Sweden's Ambassador to the U. S.

Perkins-Goodwin's McSweeney Scans Small Mills

Paints Encouraging Picture for Metropolitan TAPPIs

NEW YORK—Ed. McSweeney, treasurer of the Perkins-Goodwin Co., was the principal speaker at the April 12 meeting of the Metropolitan Section of TAPPI at Fraunces' Tavern. Attendance approximated 60 persons.

Discussing the future of the small mill, Mr. McSweeney said in part:

Have you ever been confronted at first-hand with the problem of shutting down a mill in a community that depends upon that mill for its very economic existence?

While we are all familiar with marginal high-cost mills, many of which are right now again confronted with the problem of survival, we all know small mills that are in glorious shape to face whatever the future may bring, because the management planned and worked while there was still time to take steps that would insure the individual mill's future.

Obviously, there is no over-all solution to the problem of the small mill, but, it is my personal belief that many small mills that have kept step with progress and have been blessed with good, sound, alert, progressive management, have a lasting place in the pulp and paper industry.

Size and integration often bring the advantages of finances and fundamental and applied technical research, but these important values can never replace the human values of skill and resourcefulness that can be applied through good management, giving the small mill a flexibility that can be turned into a great asset.

The small mill, with proper planning, can often reach a degree of specialization that is either impossible or unattractive for the larger organization to consider.

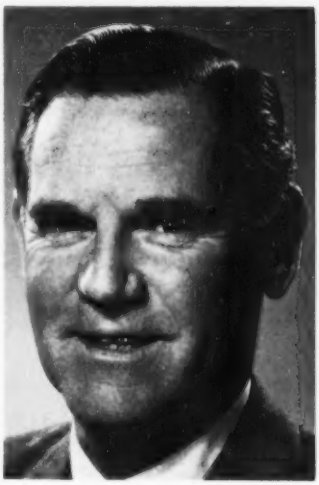
Today, more than ever before, the small mill oftentimes has an opportunity to integrate into a clearly-defined geographical marketing area. In that connection, the whole subject of basing point pricing, bringing with it the elimination of cross-hauling, and, more recently, the impending increase in postal rates, are all in the direction of favoring the well-managed small mill. The present period of severe adjustment, if it continues to accelerate, will undoubtedly mean the eventual elimination of many marginal high-cost mills that cannot adjust to today's competition. This unfortunate development will not be confined to the pulp and paper industry and the small mill must accept the fact that it cannot compete with the highly engineered, integrated units that should and must produce the staples.

The small mill has a place and a future if the management is alert enough to plan for and to adjust to conditions instead of trying the ostrich technique of sticking their heads in the beater until they get shot in the rear end.

There is one other important factor that I want to point up that indirectly is closely tied up with the problem of the small mill.

Just about a month ago, Egon Glesinger's book, "The Coming Age of Wood," was published, having been delayed by the intervening war years, and we found pulp and paper measured not by the narrow statistics of stock market prices, but by the enormous, sweeping, breath-taking possibilities that this one expert regards as goals for us to out and obtain.

The problem of the small mill and publication 'The Coming Age of Wood' wouldn't, at first glance, seem to have too much in common. But, actually, they add up to our personal interests and our personal views.



ED McSWEENEY

Treasurer
Perkins-Goodwin Co., New York City

Although I have been in on the development of many "end uses" of paper, I have instinctively thought of the other fellow's pastures as being a little bit greener. I have watched the tremendous growth of the chemical industries, the electrical plants, General Motors and the other large automotive companies, and, more recently during the war years, the leaders in air transport. Just recently, we have felt the impact of television as the "last word" in the field of audio-visual communication. I have watched while the public has accepted these new industries as an opportunity for investment, but somehow I do not believe that I have applied this same thinking to our own immediate opportunity. If I, personally, have been guilty of an oversight about the field in which we earn our livelihood, then what can be expected of Mr. John Q., investing public? Yet—here comes a book which outlines how the forest products industries, under proper management, can feed, clothe, house, fuel and transport all of the people in the world and lift their standards of living higher than ever before. In the face of such a challenge and such a clearly-defined opportunity, who can help but feel uplifted by the enormous implications of the future? But, let's stop soaring and come down to earth and look around.

Progress is being made and great contributions are coming out of the companies you represent, but are we individually pushing things along, or are we simply drifting with the tide? How about our individual mills? How about our management? Where does each of us fit into this picture, this exhilarating pattern of future growth?

As one final thought, I would like to emphasize that the most important step for any business to take, if they are not sure that they are on a sound basis, is to make an attempt to make an honest appraisal of their exact condition in the industry. This sounds easy, but just try and get somebody to go to the doctor before they fall over.

As part of this appraisal, the small mill should try to capture on paper its past and present and try to draw a blueprint for the future. A well-managed business plans for the eventuality of any change. Right now, while profit margins will shrink, relative positions will once again become more clearly defined and the businesses that have planned soundly will continue to operate and prosper. If a small mill has no plans at this late date, the longer the planning is put off the harder the job becomes. But there are still some clearly-defined moves that the small mill might consider.

If a small mill is a secondary producer, then it should make every possible effort to tie up with a stronger primary producer who might not give it all the profit it would like to, but would at least see that it continues to operate.

By way of definition, there are broadly two major types of producers: (1) the primary producer who manufactures for the consumer and, therefore, meets the consumer face-to-face, and (2) the secondary producer who renders a manufacturing service to the primary producer and who rarely has any contact with the end user, or the consumer. For example, the automobile manufacturer is a primary producer, while the company which makes spark plugs or other component parts is a secondary producer.

When a market is booming, it is difficult for any producer not to expand his sales. When a market shrinks, the primary producer will continue to need the product of the secondary producer, but not necessarily from one source. In fact, he may even consider making his own product to insure a dependable and economic supply.

Applying this principle to pulp and paper, it would seem to me that the best way for any mill to share in the future progress of the industry (which will unquestionably continue to expand) is to study the possibility of establishing a foothold as a primary producer.

As the number of forestry products' "end uses" grows, there will be more and more opportunities for the individual mill, including the small mill, to produce and market saleable 'end' products. The choice of the particular end-product or group of end-products naturally depends upon a number of factors.

Again we come to that all-important question of the aptitudes and abilities of the management; the present physical plant and equipment, the location of the plant in relation to raw materials and markets and the new finances, if required. It is a relatively easy job to compile a check-list of all of these factors.

Integration with a primary producer represents a possible solution. Without giving the matter much serious thought, it is easy to think of the primary producer absorbing a source of supply. That happened on a broad scale during the shortage years. But the reverse can also be true. Secondary producers who possess marked technical know-how, but who tend to be weak in sales organization and marketing experience, are found buying into or absorbing the primary producers who take their product. That is a direction that properly developed gives the outstanding technical producer a ready-made sales organization, trade-marks, dealers, price-lines and other valuable advantages which would have taken the secondary producer years and a great deal of money to develop on his own.

Some of the advantages of integration can be achieved by the small mill through cooperation

with other small mills. It is a fair assumption (not a commercial) that under conditions as they now exist, more and more small mills will bring their problems to the selling agent. If the selling agent is capable, then many small mills will find the solution to their problems in that direction. If the owners and management of a small mill dislike and fear integration, the selling agent who is properly staffed can supply most of the advantages which integration normally provides. A very definite service which the selling agent can perform is the stabilization and continuation of the source of raw materials. Often, when a new product "clicks," the original source of supply may not be adequate. In fact, they seldom are, once sales get rolling along. The selling agent, in that case, represents an added reservoir to supplement the initial supply.

Before going on to the question period, I would like to make one further observation that has little or nothing to do with the small mill, but has a lot to do with us as individuals. It is that when we sell something today, we should be aiming at something more than immediate profits. We all will have to show more real honest-to-goodness enterprise, particularly sales enterprise, if we want to stay free.

The business world is in a period of post-war adjustment, probably a year or two overdue. The daily problems are so pressing that management is being called upon to use skills that are either completely lacking or rusty from lack of use. The crying need of the moment in pulp and paper is for the leadership of better management.

I am sure that if we accept this challenge that ten years hence we will agree that the further progress of pulp and paper is a tribute to a handful of men who went out and did what other men said couldn't be done.

Lively discussion which followed was focused on the will of the small mill to survive, specialized quality items, integration of secondary producer with primary producer, and the services of selling agents.

By accepting report of the nominating committee, slate of officers was reelected for the ensuing year: John Calkin, Union Bag & Paper Co., chairman; Lewis S. Reid, Metropolitan Life Ins. Co., vice-chairman; Henry J. Perry, Frederic C. Clark Associates, secretary-treasurer.

Special attention was directed to the change in date of next regular meeting to Monday, May 9, also the Fall TAPPI Meeting in Portland, Oregon, Sept. 12 to 15.

25-Year Testimonial

WATERTOWN, N.Y. — Twenty-three employes of the St. Regis Paper Co. who have served 25 years in northern New York mills of the company were honored at a testimonial banquet March 31, at the St. Regis Inn, Deferiet. Guest speakers were B. R. Cancell and W. R. Adams, vice-president of St. Regis, and W. E. Hahn, vice-president of the Taggart Corp.

Taube, Sulfaro to Baldwin

NEW YORK—Alfred W. Taube, soon to observe his 50th anniversary in Graphic Arts, recently joined the sales staff of the Baldwin Paper Co., Inc. Anthony B. Solfaro, formerly associated with the American Writing Paper Corp., has joined the firm as assistant to Lou Beck, manager of the order department.

Indian Paper Mill Contract

TORONTO, Ont.—The Ballarpur Paper & Straw Board Mills, Ltd., of India, has awarded a contract to the John Inglis Co., Ltd., here to design and build a pulp and paper mill to cost $2,000,000. The mill is to be made in Toronto and shipped to Central India for erection, where it will turn out fine papers from bamboo pulp.

Major James E. Hahn, president of Inglis, just returned from India, described the project as "part of India's program to triple paper production.

Indian technicians and engineers will be brought to Canada for training and will remain here during the 18 months required to build the mill. The first such installation to be made by a Canadian company, it is being financed by private capital and the Indian Central Provinces government.

The mill will have a capacity of 20 to 25 tons of paper a day and the bamboo is processed much like ordinary pulp. It is not suitable for newsprint, but makes good writing or book paper.

Students B-F-D Guests

OGDENSBURG, N. Y. — Twenty-eight students from the Forestry School of the University of Syracuse will make an inspection of the pulp manufacturing facilities of the B-F-D Division of the Diamond Match Co. here on May 9, J. O. Julson, manager of the company's paper and pulp division, reports. The students are specializing in pulp and paper manufacture.

D. A. Hunter, superintendent of the Ogdensburg mill, will act as guide to the group during the visit. The faculty member accompanying the students will be C. P. Donofrio, associate professor of pulp and paper manufacturing.

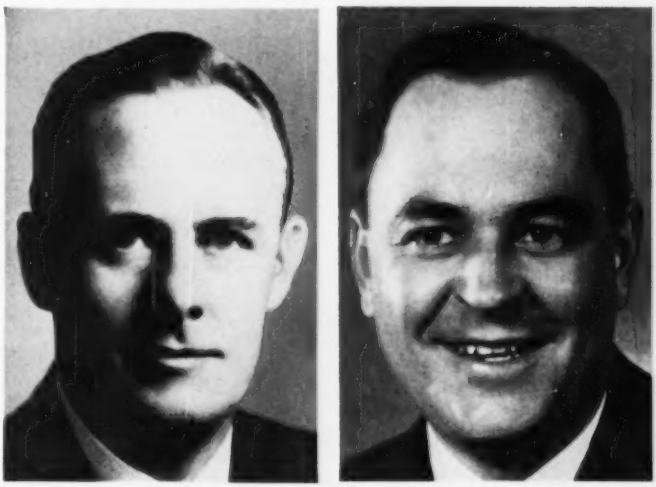
Greene to Nanaimo

NANAIMO, B. C. — James M. Greene, Jr., has accepted a position as engineer for the British Columbia Bridge & Dredging Co., and will be the engineer for the construction of the H. R. MacMillan Export Co., Ltd., pulp and paper mill here. Previously he was located at Cashmere, Wash.

Grigsby Box Plant

PORTLAND, Ore.—The $150,000 plant of Grigsby Bros., paper box manufacturers, has just been opened, marking the fourth expansion since this company's founding 30 years ago. The present plant, completely mechanized, features a "quad staying" machine new to this area.

NEW ST. REGIS VICE-PRESIDENTS



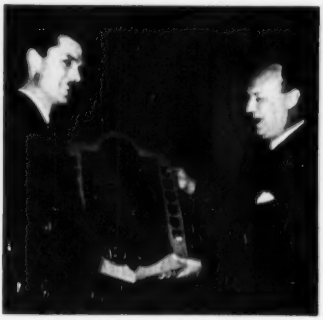
Arch Carswell (left) and Reginald L. Vayo (right) have been elected vice-president of the St. Regis Paper Co., New York City. . . Mr. Carswell joined the company in 1928. He became general sales manager of the company's Multiwall bag division, with headquarters in New York, early last year. He will continue in charge of sales for the division. . . Mr. Vayo, joined the company in 1945 to take charge of pulp sales. Previously he was manager of the foreign department of the Brown Co. and Brown Corp. He was named to the War Production Board in May 1942, serving as chief of the Lend-Lease Division of the Allocation Office, of the Forest Products Bureau until July 1943, when he re-joined the Brown Co. in New York. In March 1943, he was recalled to the WPB as a "dollar-a-year man". Mr. Vayo will now direct sales of Kraft paper and board as well as pulp

B. C. Mill Safety Achievements Honored

VANCOUVER, B.C.—The gold Trophy for the most efficient 1949 First Aid Team in the Pulp & Paper Industry in British Columbia was won March 24 by the British Columbia Pulp & Paper Co., Ltd., team from the company's Woodfibre, Howe Sound, mill. The teams scored 143 points out of 174 points possible. Personnel of the team comprised Captain John Guthrie, J. Stevens, V. Bidin, H. Lynch and J. Wood. They each received a handsome wrist watch. The second winning team was that of the Sidney Roofing & Paper Co., Ltd., of Victoria, with 139 points. Team members were Captain W. H. Gardner, J. L. Newbigging, John Moonen, Mike Lechman and P. Deacon. Each member of the second winning team received a weekend bag. Judges were Ian Balmer, M.D., and W. M. Allison, both of Vancouver.

At the Banquet, chairmanned by Cyril Hague, Paul E. Cooper, president of Pacific Mills, Ltd., and chairman of the Canadian Pulp & Paper Ass'n., Western Branch, made the awards. Included in the awards were annual

The winning team in the 1949 First Aid Competitions receives the golden trophy awarded annually by the Canadian Pulp & Paper Ass'n., Western Branch from Paul E. Cooper, chairman. The Winning Team was from the Woodfibre, B. C. plant of the British Columbia Pulp & Paper Co. Ltd. Captain and team members each received a handsome wrist watch. . . Left to right in picture are: Paul E. Cooper, president, Pacific Mills, Ltd.; William Lynch, John Stevens, John Guthrie (captain), (fifth man from left, unidentified), Victor Bidin, John Wood.



D. B. Lloyd, manager of Davies Paper Box, Ltd., Vancouver, receives Canadian Pulp & Paper Ass'n., (Western Branch) trophy for British Columbia converting plant with best safety record for 1948 from Paul E. Cooper, chairman of the Western Branch.

Captain and members of the First Aid Team with Second Honours from the Sidney Roofing & Paper Co. Ltd., Victoria, B. C. received weekend bags from the Canadian Pulp & Paper Ass'n., Western Branch, through Paul E. Cooper, chairman. . . Left to right in picture are: Paul E. Cooper, president, Pacific Mills, Ltd.; Phil Deacon, John Newbigging, Bill Gardner (captain), John Moonen and Mike Lechman.

C. D. Humphrey, assistant manager, British Columbia Pulp & Paper Co. Ltd., receives for his company's Port Alice mill the Canadian Pulp & Paper Ass'n., (Western Branch) trophy for the British Columbia basic mill with the best safety record for 1948. This mill won the trophy for the second consecutive year. The mill safety director is E. Tucker.

trophies for the basic pulp and paper mill for the best safety record in 1948. This went to the Port Alice mill of the British Columbia Pulp & Paper Co., Ltd., for the second year in succession. The Trophy for the converter plant with the best safety record in 1948 was awarded to Davies Paper Box, Ltd., Vancouver, B.C.

Mr. Cooper said: "It is a satisfying and enjoyable experience for me to participate in the good work being done in British Columbia's pulp and paper industry by the safety directors the first aid men and all those other employes who are co-operating to prevent accidents. This is the right time also for me to congratulate the industry and all those engaged in its work of safety education.

The past two years show a very marked improvement. On the basis of the Donovan Index, the industry safety rate in December 1946 was 58.10. In December 1948 it was 45.62, an improvement of 21 percent in two years. This progress may to some extent be attributed to the good work of the CPPA Western Branch Safety Committee who, as you all know, have "sparked" a great deal of valuable work in safety education.

"This is the first year of industry-wide First Aid Competitions. As you can see by the several 'winners shields' on the base of this trophy it can be won for many years before it reaches its final claimant."

Head table guests include: Adam Ball, chairman, Workmen's Compensation Board; E. W. Ablett, commissioner, Workmen's Compensation Board; G. G. Edwardson, Provincial secretary-superintendent, Order of the Hospital of St. John of Jerusalem, St. John Council for British Columbia; and C. W. Pritchard, commissioner, Workmen's Compensation Board.

Champion Ups Two

HAMILTON, Ohio — Calvin Skillman has been named assistant director of public relations for the Champion Paper & Fibre Co. Mr. Skillman has been with the firm for more than 18 years. Stewart Jones, who is moving to Hamilton from the company's Houston, Tex., division, will take over the editorship of the company publications previously handled by Mr. Skillman.

Welk Succeeds Charlton

OSWEGO, N.Y.—Lawrence F. Welk has been named branch manager of the St. Regis Paper Co., multi-wall bag plant here, succeeding Norman K. Charlton, resigned. Mr. Welk was formerly manager of the Nazareth, Pa., multi-wall bag plant.

Stenberg to Chicago

CHICAGO—David G. Stenberg has been appointed head of the local district sales office of the National Gypsum Co. He formerly was in the Buffalo sales office of the company and has been with the firm for 10 years.

CVA Bill Lauded and Damned

SPRINGFIELD, Mass. — Rep. Foster Furcolo of Longmeadow on April 14 informed paper manufacturers throughout Western Massachusetts that he had introduced into Congress a bill to authorize a Connecticut Valley Authority patterned after the TVA.

The Congressman, who carefully labeled the bill "introduced by request," indicated that he does not plan to press for passage of the legislation at this time.

The CVA would have three directors to be appointed by the President. An advisory committee, consisting of government officials from various departments and at least 12 residents of the area, would assist in developing the initial plan before its submission to Congress.

The river valley embraces areas in Connecticut, Massachusetts, New Hampshire and Vermont.

Under provisions of the CVA-bill, the Authority is required to present to Congress within two years a complete plan for harmonizing flood control, navigation, agricultural and other requirements.

As the Congressman introduced his measure, strong opposition was being voiced in Hartford, Conn., at a legislative hearing on a resolution urging Congress to establish a CVA.

The resolution asks that the State Senate urge Congress "to take measures with the greatest dispatch to establish in the Connecticut Valley a unified planning and development administration like that of the TVA adapted as local conditions may require to promote the greatest wealth and prosperity of the region and the nation."

George Hawkins of New Haven, Conn., representing the Americans for Democratic Action and Barry Greenbie, representing the People's Party, favored the resolution. Mrs. Margaret Connors Driscoll, representative of the state CIO, also supported the proposal.

Among those in opposition was William A. Dower, executive vice-president of the Hartford Chamber of Commerce.

William B. Cafky, executive assistant of the Connecticut Chamber of Commerce, also opposed the resolution.

Bernard Kranowitz of New Britain, an official of that city's Chamber of Commerce, declared a Valley Authority in this section would be an "invasion" of private enterprise. Richard Martin of the State Water Commission and Frederick Waterhouse of the Manufacturers' Ass'n., of Connecticut, also were opposed.

JOHN D. NORTHUP

—former Owens-Illinois Glass Co. plant manager, has been appointed general manager of the company's corrugated package operations. . . Mr. Northup, a graduate of Massachusetts Institute of Technology, joined Owens-Illinois in 1933.

Honor Paper Concerns

WASHINGTON — The Strathmore Paper Co. of West Springfield, Mass., and the Paper House of New England of Springfield, Mass., were named participating winners in the 27th annual exhibition of the 50 Books of the Year which opened in the Library of Congress on April 5.

The Strathmore Paper Co. won its award for its part in the publishing of the following books: "Steuben Glass," "The Life of Forms," and "On My Way" by ARP. The Paper House of New England won awards for its part in the publication of the books by Henry Focillon and ARP.

Can. '48 Revenue Frt.

OTTAWA — The tonnage of revenue freight carried by the Canadian railways during the 12 months of 1948 reached a cumulative total of 3,736,513 tons of newsprint paper compared with 3,745,371 tons in 1947; other paper 917,591 tons against 802,316; paperboard, pulpboard and wallboard paper, 686 tons against 653,364; woodpulp, 2,311,901 tons against 2,217,010, according to a report just disclosed by the Canadian Government.

Monadnock Boston Office

BOSTON — The Monadnock Paper Mills, Inc., has opened a local office at 10 High street, out of which George K. Hackett and one other representative to be named later will serve the New England area.

Connecticut Valley Supt's Water Supply Meeting

SPRINGFIELD, Mass. — Worthen Taylor of the Massachusetts State Department of Health presented his views on stream pollution as applied to Massachusetts in a talk before a meeting of the Connecticut Valley Division of the American Pulp & Paper Mill Superintendents Ass'n., Inc., on March 25, at Hotel Sheraton.

Mr. Taylor pointed out that Massachusetts does not expect every stream to be a trout fishing stream; neither does it want these streams to be open sewers. A classifying system for streams, totaling five classifications, he added, has been set up by the State. Before any stream has been put into any one of the five classifications, Mr. Taylor commented, industry and the general public will be invited to public hearings for the purpose of expressing their views on such classification. Mr. Taylor further pointed out that industry has been much more co-operative than municipalities in the handling of stream pollution problems; that there has not been a single instance of an industrial establishment being brought into court, whereas a couple of municipalities have had to be treated in that manner.

William Wiese of the Connecticut State Water Commission, also on the program, declared that most of the emphasis in the past was placed on sewage pollution of streams but that in recent years it has been an industrial pollution. He also related that the health hazard of industrial pollution has been much over emphasized and that industrial pollution of streams does not cause much of a health hazard, but rather may develop an obnoxious condition because of odor, also perhaps render such water of little value for subsequent use.

The control of stream pollution, commented Mr. Wiese, is largely the conservation of a valuable natural resource. State control of this resource, he added, is necessary because of the continuously increasing demands for water that are being made by certain types of industry for both processing and cooling purposes. Unless such supplies of water are available to industry, stated Mr. Wiese, it will be necessary for industry to seek new locations.

Mr. Wiese, further related that there is no water supply shortage in Connecticut at the present time. However, if the industrial demand for water continues to increase as it has recently, he added, it will become necessary to use the water over and over again.

About 50 percent of the pollution load in Connecticut today, said Mr. Wiese, is contributed by industry. Thus the success of any stream pollution program depends to a great extent on the support given to it by superintendents of industrial plants concerned with the problem. In concluding his remarks, Mr. Wiese appealed for proper co-operation on the part of plant operators, stating that the laws in Connecticut at present are pretty lenient but stricter laws will be passed if this co-operation is not given.

Andrew (Andy) H. Gilmour of the C. H. Norton Co., chairman of the Connecticut Valley Division, presided at the meeting. As spokesman for the Division, he also presented a certificate to Raymond C. Winkler of the Chemical Paper Mfg., Co., for his services as chairman of the Division during 1947-48.

Western N. Y., Empire State Tappi

NIAGARA FALLS, N.Y.—The regular monthly meeting of the Western New York Group, Empire State Section of TAPPI was held on April 13 at the Prospect House.

About 40 members were present to hear Russell C. Shearer, manager of the Merritton Division of the Alliance Paper Mills, Ltd., talk on "Paper Mill Modernization."

Mr. Shearer stressed the role mill personnel must play in analyzing mill conditions, in studying economic trends and sales direction, in carefully reviewing the over-all picture as regards location, geography, raw materials, power and stock preparation ability.

Modernization in thinking by mill personnel is, according to Mr. Shearer, the primary requisite in any mill modernization program, and embraces a multitude of factors which, unless intelligently provided for, will cancel out whatever advantages might have accrued from step-wise planning.

The progressive examination of equipment to ensure balance of ability and the planning in stages to most benefit earning power should be the first consideration in capital expenditure for mill improvement, although the approach is, of course, dictated by the innate potentialities of the mill itself and by a determination of quality and quantity required to fit the sales market, he said.

Mr. Shearer pointed out that all too often a "cart before the horse attitude" prevails in new equipment installations and that under-estimating or poor planning, when multiplied by 20 years' operation, assumes an importance out of all proportion to what it appears to have when considered only from the immediate viewpoint. This multiplication factor can likewise be applied to point up the cost of poor mechanical maintenance of existing equipment, of poor supervision or of failure to utilize to the fullest the equipment at hand. In this connection, lost time analyses and summaries, studies of the maintenance organization as related to the lost time analysis, production control and establishment of suitable standards are invaluable aids in improving operations and getting the most out of existing equipment.

The extreme breadth and complexity of the problem of mill modernization demands a most careful study before any steps are taken, Mr. Shearer said, pointing out, however, that it is this very complexity which in its far-reaching results pays dividends when careful planning is the basis for the modernization program.

Dr. J. S. Reichert of E. I. du Pont de Nemours, Niagara Falls, N. Y., presided, and announced the appointment of a nominating committee, headed by J. W. Youngchild, who will present a slate of officers for the coming year at the May 11 meeting.

Canadian Price Trends

OTTAWA—The Prices Branch reports that wholesale prices of newsprint and wrapping paper, on the basis of the Canadian Government's latest survey, stood at 133.9 in February, 1949, or the same as in January, 1949, though down as compared with December, 1948, when this was 134.8 but still above the 130.5 of February, 1948 on the basis of 1926 equals 100.

This official report also reveals that the wholesale price of pulp has continued its steady decline in 1949, standing at 193.0 in February, 1949, as against 194.3 in January, 1949, or 195.5 in December, 1948. In February, 1948, this was 195.8.

Army Day Presentation

ERIE, Pa. — The Hammermill Paper Co. observed Army Day by presenting a large silk American flag to the burial and ritual detail of Billy Simpson Post No. 470, VFW. In a brief ceremony under the flagpole at the mill entrance, Comdr. Raymond Gorndt and 12 members of the post's detail accepted the flag from Mortimer E. Graham, secretary, and Charles B. Milner, personnel director, of Hammermill.

Faegre Joins SAPI

NEW YORK — Robert Faegre, sales manager of the paper division of the Minnesota & Ontario Paper Co., has been admitted to membership in the Salesmens Ass'n. of the Paper Industry.

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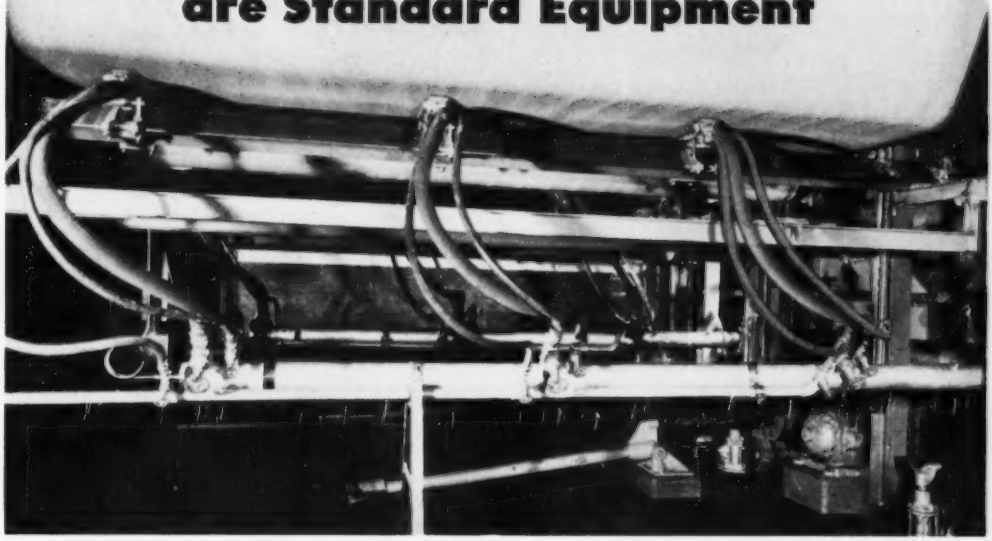

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Capital Expenditures Now?[1]

KURT H. SIECKE

Consulting Engineer, 429 S.W. Fourth Ave., Portland 7, Oregon

A preceding article carried estimated operating costs and fixed annual charges for a 200 ton kraft paper mill and showed that under favorable conditions, a mill built even today with present high construction costs and proportionally large investment in plant and wood-lands, can operate competitively and provide a sound return on invested capital. This is possible for three reasons:

1) Selling prices of finished products have been established by economic conditions enabling even marginal mills to enter the market.

2) Favorably situated existing mills have been able to increase their operating surplus and in many instances to expand their production facilities also.

3) A new mill incorporating the most up-to-date processes and equipment will show lower unit operating costs than most of its competitors.

Examination of financial statements of 17 mills showed a substantial increase in surplus of all 17, after provision for stock dividends and payment of interest on indebtedness, and ten reported a recent modernization or expansion program of considerable size. Following the war years of controlled prices and limited plant expenditures, this represents a sound condition, and one not to be interpreted as a reason for abrupt price and wage adjustments. Such wage increases as have been made were justified and reflect a sound labor-management relationship.

Allowances for depreciation and obsolescence permitted under the corporation income tax regulations of the Bureau of Internal Revenue are entirely inadequate for replacement of facilities under prevailing conditions, and consequently, it has become necessary to finance plant modernization and heavy maintenance programs from earnings or accumulated surplus, by reason of the spread between the depreciation reserve based on original cost and present day replacement costs. Those plants faced with public regulations for the elimination of stream pollution have additional needs for assigned reserves.

[1] The second of two articles on this subject.

The use of a portion of earnings for deferred maintenance and modernization is generally acceptable to stockholders and is a sound management policy especially if it serves to strengthen the competitive position of the mill by up-grading the product, improving the quality, and replacing old and obsolete equipment with modern counterparts. Such a policy will pay off in both present and future operations, and Table I has been prepared to show the cost of a mill meeting basic requirements compared to a fully modern plant.

Table I

Comparative Estimated Cost
Completely Integrated
165 Ton Sulphite Mill

	Basic Requirements	Completely Modern
Site	$100,000	$100,000
Wood preparation	477,000	612,000
Sulphite pulp mill	426,000	690,000
Stock preparation	393,000	500,000
Bleach plant	None	570,000
Paper mill and beaters	2,962,000	4,938,000
Finishing and shipping	346,000	495,000
Electrical	1,112,000	1,327,000
Piping	696,000	830,000
Steam Plant	1,470,000	1,470,000
Filter Plant	237,000	350,000
Miscellaneous	575,000	625,000
	8,794,000	12,507,000
Woodlands, etc.	9,500,000	9,500,000
Total Capital Investment	18,294,000	22,007,000

It may now be desirable in an illustrative manner to follow the raw material through the mill with suggested plant improvements. First, reduction in wood mill costs and wastes without impairing the quality of chips has long been the aim of operators, and the introduction of hydraulic barking and whole log chipping are the two most effective improvements in recent years. Their advantages are best realized in mills using logs from twelve to forty inches in diameter such as are still available in the forests of Canada, the Pacific Northwest, and Alaska, but satisfactory results are also had with smaller sizes.

Most logs after barking are ready for the chipper, unless a particularly high grade bleached sulphite is desired, in which case it may still be necessary to saw or split some logs and use mechanical equipment such as the router for removing all seams and knots. Larger logs than the chipper can handle must also be sawn or split.

Reference is made to a very informative paper on the whole-log chipper by Messrs. Mac Laurin and Van Allen which appeared in the November 25, 1948 Industrial Development Section of the Paper Trade Journal, where it is stated that the quality of chips is superior to that from smaller chippers and that a wood saving of 14 to 15 percent can be made compared to the former equipment, which apparently results from elimination of saw kerf, reduction in silvers, more uniform chips, and reduction in undesirable compression. The accompanying labor saving is estimated at fifty percent.

While improvement in chip quality has long been recognized as one of the important factors in uniformity of chemical pulps and higher yields, there are other critical features of pulp mill operation such as the composition of the cooking acid or liquor, variations in water and acid temperatures, cooking temperatures and pressures, and control of the cooking cycle. The latter features are to a greater or less degree within the control of the pulp mill operators depending upon the plant equipment, and it is obviously impossible to attain a consistently superior product using inadequate facilities.

The application of these principles requires a supply of water at uniform temperatures, raw acid storage under pressure, an adequate accumulator for combining acid and relief at desired temperatures and pressures, usually forced circulation and indirect steaming during the cooking stage, and automatic control of temperatures and pressures.

By these means, a more uniform pulp is produced, the cooking time is shortened, and the yield increased. These benefits are partially counter-balanced by a considerable investment in acid making, digestion, and recovery equipment which has retarded their application in many instances, even though all items are standard manufactured products and fully adequate experience records are available to demonstrate the operating economies realizable, which may easily amount to fifteen percent increased production with the same digester capacity.

In contrast to the several refinements in the fundamental arrangement of the sulphite process, which are outlined above and which can be made in whole

or in part, the engineering features of the kraft process become relatively permanent with completion of the mill. Practically no change in this process has been made since its original application, and the attention of operators and management has been devoted almost entirely to reduction in chemical losses, heat recovery, and washing. A choice between stationary and rotary digesters, between diffusers and vacuum washers, between horizontal rotary lime kiln and vertical calcining furnace, and a choice of several methods of black liquor disposal are the important basic alternatives, and once the decision has been made, no major plant changes appear feasible.

Possible exceptions are the replacement of one type of smelter with a furnace-boiler unit, or change-over from batch to continuous causticizing, or a change to series counter-flow washing in mills where vacuum washers have been used in parallel. Since these changes involve the retirement of investments of considerable size, they should usually be considered when the equipment is due for replacement, at which time an economic study may indicate the policy to be followed.

A very new development in the sulphite process has recently been announced by G. H. Tomlinson using magnesium instead of calcium bisulphite by which the spent cooking liquor is washed from the pulp on vacuum washers and the resulting red liquor is evaporated to permit burning the lignin and sugars in a furnace-boiler unit with recovery of magnesium oxide and sulphurous acid which are returned to the acid plant. This process is said to be in use at Windsor Mills, Canada and has just been adopted by the Pulp Division of the Weyerhaeuser Timber Company at its Longview, Washington, mill. It is being followed with very great interest by other sulphite pulp manufacturers. The similarity to the sulphate process is obvious, and the large capital investment required will probably delay its general adoption in spite of recovery of chemicals unless public policy or other non-economic influences prove decisive.

While many improvements have actually been made in screen room equipment, the selection of a type of screen is more likely to be for functional than economic reasons. Centrifugal knotters and screens are almost standard equipment for groundwood and kraft, whereas flat screens are more generally used in sulphite screening, and the application of vibrating screens to removal of knots and coarse foreign matter seems to be increasing. However, the quantity of screenings will always reflect the quality of chips and the kind of raw stock produced in the pulp mill. Therefore, although the importance of screening should not be minimized, it has little bearing on the subject of this article.

The selection of bleach plant treatment and equipment is usually entrusted to those who are thoroughly familiar with the process, the desired objectives, and the economic features, all of which must be carefully weighed. For example, although pre-chlorination and multi-stage bleaching is probably the most economical and effective way to bleach pulp in a mill having a capacity of more than 200 tons per day, single stage high density bleaching is still the best process to apply to a production of less than 100 tons of sulphite pulp per day, and for smaller quantities or irregular requirements, the low density bleacher is still to be considered by reason of the simplicity of the equipment which can be used.

The relationship between the digestion process and bleaching is another feature which is sometimes overlooked, although never by experienced pulp mill operators. Tests have proven that by adequately correlating the pulping and bleaching processes so as to produce a fairly hard stock of medium bleachability, the increased yield of bleached stock is enough greater to more than pay for the additional chlorine required. In other words, it is not usually advisable to seek a minimum consumption of chlorine, but rather to strive for a balance between the lignin content of the unbleached stock, the chlorine usage, and the production of bleached stock. Similarly, the cost of chlorinators, bleachers, stock chests, and washing equipment required for additional bleaching stages is so great that the value of increased yield and the saving from lower chlorine consumption per ton are not sufficient to overcome the greater maintenance and fixed charges. A thorough economic analysis and study of the production needs of the individual mill are therefore essential before proceeding with a new bleach plant or changes to an existing plant. Intelligent operation is always productive and results in lowered costs which are probably more definitely demonstrable than in most other parts of the mill.

Beating and refining is a somewhat controversial subject and until very recently there was little available data upon which to prove or disprove the claims of a host of equipment manufacturers. Probably the greatest advance has resulted from overcoming prejudice sufficiently to analyze the kind of stock treatment which is required and then adopting that equipment which produces the desired qualities.

Thus, in many instances where mixing alone is required, or where waste paper, laps, or broke are to be repulped, the Hollander beater has been entirely superseded and some variety of circular tub pulper with a revolving rotor on a vertical shaft is found to prepare the slush stock in less time with a reduced power consumption and a reduction in loading time. A somewhat similar machine provided with rubbing contact surfaces even reproduces beating action accompanied by more rapid circulation and a corresponding reduction in beating time.

By proper selection of equipment it is therefore possible in many cases to reduce power consumption and labor costs per ton by making certain substitutions for the old-time beater. Favorable conditions for such a change are likely to occur in older mills which have been using beaters for repulping laps or preparation of groundwood pulp or where the need for increased production would require additional beaters for which floor space is lacking. It is also suitable for preparing stock for board manufacture in many instances.

Our discussion now arrives at the final step in the process, the machine room where the final tests of the furnish are made on a full size scale and the product is either found to meet the specifications, or is returned to the broke chest for re-manufacture or degrading to be sold at a lower price. The importance of the experienced paper maker in any organization lies partially in his ability to produce a standard product from furnishes requiring special treatment which would otherwise not be acceptable.

On the other hand, he is no magician and consequently, the entire process from the wood-mill on calls for the careful, conscientious attention of every operating employee if the stock furnish is to make an acceptable sheet at a maximum rate of speed. Therefore, cooperation, which is the objective of mill management, is essential to satisfactory production.

Aside from the quality of furnish, many factors enter into machine production, but for our purpose only those of a mechanical nature will be considered. The more important of these are: (1) fourdrinier, headbox, and slice specifications; (2) suction boxes, couch roll, and press rolls; (3) felt washers and conditioners; (4) capacity of auxiliary equipment; (5) number of driers and specifications; (6) steam and condensate systems; (7) ventilation; (8) machine drive; (9) fibre recovery. No attempt will be made to describe the multitude of equipment available or the variety of solutions presented by the manufacturers for turning out a maximum quantity of the specified product, which in some cases is complicated by the need for making several grades on the same machine.

By reason of the variety of operating requirements, paper machines are, of course, built to order or rather assembled to specification requirements. It is therefore possible to have a basic machine design capable of producing a given quantity of a specified paper, and to increase this productive capacity

and versatility within a rather wide range by making certain substitutions and adding necessary auxiliary items. This procedure is always followed, often with very satisfactory results, in modernizing an existing machine providing the basic design is not obsolete.

Table II gives a comparison in capital and operating costs between a sulphite pulp and paper mill having a rather rudimentary but entirely sound lay-out, and the same mill including the improvements which have already been discussed. This sort of comparison, taking into account all departments and every step in the operation, should be applied whenever major changes are to be made, since it is easily possible to arrive at erroneous results by using incomplete cost figures and inadequate conversion factors.

Table II

Comparison of Manufacturing Costs
165 Ton Sulphite Mill

Direct Costs	Sulphite Manila Wrapping	Bleached Sulphite Writing
Wood mill and chipper including logs	$55.80	$59.60
Pulp mill and screen room	20.85	19.41
Bleach plant	None	7.66
Beater room	6.85	19.31
Paper machines and jordans	17.97	21.60
Finishing and shipping	3.13	13.72
	104.60	141.30
Indirect Costs		
Manufacturing burden	17.12	23.35
General engineering and maintenance	2.01	2.90
Depreciation and obsolescence	7.47	11.18
Taxes and insurance	19.90	28.77
Cost per A.D. Ton	151.10	207.50
Freight allowance	26.70	36.60
Total Manufacturer's Cost	177.80	244.10
Maximum Selling Price	195.00	300.00

These cost figures are intended to provide a comparison between a mill capable of manufacturing a good quality sulphite manila wrapping paper, and the same basic lay-out with additional equipment for whole log barking and chipping, pressure acid system, circulation and indirect cooking, a two-stage bleach plant, a modern beater room, and paper machines fully equipped with vacuum couch and first press, felt conditioners, adequate driers, a complete ventilating system, fibre recovery, a sectionalized drier drainage and steam pressure system, and a steam turbo-electric drive.

The second, or complete mill, is intended to manufacture high grade writing paper, and by reason of lighter basis weights and slower speeds, an additional paper machine is necessary for the same daily tonnage.

Thus, by an expenditure of $3,713,000 this mill is enabled to upgrade its product from one priced at $195 per ton to one priced at $300 per ton. However, usually not all of the orders are for the same grade, nor will the entire production meet the top specification requirements, with the result that total annual sales are somewhat less (about seventeen percent for the writing grade) than the total tons of paper annually at the maximum selling price.

An analysis of the annual financial statements is given in Table III, which shows that the additional annual sales nearly equal the additional capital investment of $3,713,000 and further that the increase in net profit of $738,800

Table III

Analysis of Annual Financial Statements

	Sulphite Manila Wrapping	Bleached Sulphite Writing
Annual Sales	$8,830,000	$11,912,000
Operating expense—		
Cost of Sales	5,381,500	6,930,050
Selling and administrative expense	882,600	1,129,000
Depreciation	378,000	537,700
Other expenses	132,700	185,250
Profit before income taxes	2,055,200	3,130,000
Income taxes	855,000	1,191,000
Net profit to dividends and surplus	1,200,200	1,939,000
Operating Ratio	0.863	0.838
Return on Investment	6.63%	8.76%

would amortize a bond issue including interest at three percent in approximately six years, other conditions remaining unchanged.

Space in this article does not permit making an adequate analysis of the manufacturing casts shown in Table II, because these data were drawn from a large amount of detailed information which lost some of its significance in being condensed. These figures will be analyzed in a succeeding article, some of the apparent inconsistencies explained, and evidence given to show that partial estimates must be used with greatest caution.

Tannin from Northeastern Barks

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Presented to Northeastern Wood Utilization Council Bark Conference and published in Bulletin 25 "The Chemistry and Utilization of Bark".

The investigation of the tannin contents of barks, which occur as waste products in the Northeastern pulp and lumber industry, has not been carried far enough to justify any definite conclusions concerning the feasibility of their commercial utilization as sources of tannin. However, some preliminary data have been obtained and these will serve as a basis for the discussion of this subject.

That more adequate supplies of vegetable domestic tannin are needed is shown by the figures in Table I, which may be considered as roughly approximating the imported and domestically produced tannin and the total tannin consumption in the United States during the years indicated. The tonnages given represent 100 percent tannin.

The marked decrease in domestic production indicates very forcibly the increasing dependence of this country on imported tannins or on synthetic tannins. During these same years, approximately the following percentages of our domestic tannin supply came from chestnut wood: 1927, 59 percent; 1937, 93 percent; 1942, 99 percent; 1946, 97 percent. When the present supply of dead chestnut wood has been exhausted, tannin from this source will no longer be available.

In 1947 we listed in the Chemurgic Digest some potential, but at present undeveloped or not fully utilized, domestic sources of tannin. These are listed in Table II.

It is probable that not over half of the amounts shown could be recovered annually, but even that proportion would represent approximately one-third of what we consumed in 1937.

The data available on the few samples of waste bark from Northeastern woods are not sufficient to permit drawing any definite conclusions as to the quantity of tannin that could be recovered from these sources. A few samples of bark have been examined and the tannin contents, on a moisture-free basis, are shown in Table III.

Of these, the most promising are red spruce with a tannin content of 13 percent, and Eastern hemlock with 12 percent tannin. One sample of maple bark contained 9.4 percent tannin. The others probably would not justify processing, although some of the samples showed tannin ranging from 4.8 to 6.0 percent.

F. C. Simmons, Forester for the Northeast Forest Experiment Station, furnished us with some data on domestic and imported pulp wood receipts at the Northeastern mills in 1944. He estimated that fir constitutes about 35 percent of the combined fir and spruce

Table I

U. S. Annual Tannin Consumption

	Total	*Imported*	*Domestic*
1927—Tons	118,173	52,326	65,847
Percent of total	100	44.30	55.70
1937—Tons	122,776	74,343	48,433
Percent of total	100	60.55	39.45
1942—Tons	151,624	102,511	49,113
Percent of total	100	67.61	32.39
1946—Tons	131,064	104,407	26,657
Percent of total	100	79.60	20.40

consumed in Northeastern mills; that bark constitutes about 15 percent of the dry weight of the rough cord, and that one cord, bone-dry weight basis, equals about one ton. Using the data furnished by Mr. Simmons and the tannin contents of the best of the bark samples analyzed, and assuming an 80 percent tannin leaching efficiency, estimates have been made of the possible tannin recovery that might be obtained annually from the more promising Northeastern pulpwood barks. These estimates are summarized in Table IV.

The total from spruce, fir and hemlock would be 26,248 tons of tannin, an amount about equal to the 1946 domestic tannin production and one-fifth of the 1946 consumption.

In considering the suitability of a bark as a source of tannin, several factors are important. The tannin content should, generally speaking, be 7 percent or above. Under some conditions, it might be feasible to use barks with somewhat lower tannin contents. The tannin should be easily extracted with warm water. On extraction, barks should yield tannin liquors of good purity, that is, the tannin should be higher than the non-tannin, thus yielding a purity of more than 50 (where purity = 100 × Tannin ÷ Soluble Extractives). Barks should not have been "floated" (on logs that are stream transported) or allowed to stand in water for long periods before extraction. Such floating results in losses of tannin frequently representing as much as 50 percent of the tannin present. Use of wet bark for leaching is undesirable, since it lowers the concentration of the head liquors and increases evaporation costs. A high proportion of bark dust in bark ground for extraction makes effective leaching difficult.

Increased Bark and Pulpwood Supplies

The quantities of both bark and pulpwood might be increased if an economical procedure could be developed and applied for the salvage of tree tops and branches. Some work has been done in this direction by Calderwood in his studies on the utilization of scrub oak. It is understood that his plan has been considered by workers in the Tennessee Valley who have been studying the utilization of oak slabs. Such woods handling would involve chipping the tree tops and branches in a portable hog in the woods, followed by the mechanical separation of the bark and wood portions, thus salvaging bark for tannin and wood for pulp. An air-float separator used in Calderwood's tests gave promising results. Such a procedure would also greatly reduce the hazard of brush fires in the forests.

A Cooperative Story

A survey of the bark supplies available from the various mills should be made, with the assistance of interested mill operators, to determine the approximate amounts of barks of various kinds that are produced annually. The survey should show for each mill:

1. Total tonnage of dry (moisture-free) bark produced annually.

2. The various kinds of barks included and the relative proportion of each.

Table II

Domestic Sources of Tannin

	Tons—100% Tannin
Western hemlock bark (1941)	35,000
Lake States hemlock bark	17,000
Appalachian hemlock bark	4,080
Florida scrub oak bark (for 20 years)	5,100
Florida mangrove bark (for 5 years)	1,000
To these might be added the following possible sources:	
Oak slabs from Tennessee Valley	3,600
Pecan shells (if half the tannin were recoverable—12 years average)	1,250
Sumac leaves from Virginia (an estimated yield of leaves from a band 31.6 miles wide across Southern Virginia, sampled in a survey of that area)	12,136
Total	79,166

3. Whether the plant operations could be economically conducted so as to segregate barks that had high tannin contests. Particularly spruce, hemlock, oak, and possibly maple.

4. The total annual production of these four barks (a) from individual mills, (b) combined production from mills in an adjacent area.

A Cooperative Bark Utilization Group

If it can be established that a continuing supply of barks of acceptable tannin content can be made available by shipment to one or more central locations, and if such bark is available in quantities required for the economical operation of a tanning extract plant, then steps might be taken to effectuate the establishment of such a plant, or more than one if necessary. This might be undertaken as a cooperative project by pulp and lumber interests or by a tanning extract manufacturer. The question naturally follows: How much bark would be required for the operation of an extract plant?

Bark Requirements for an Extract Plant

In 1937, Frey and Smoot, in U. S. Dept. of Agriculture Technical Bull. 566 on Western hemlock bark, stated that the smallest practical unit for producing hemlock extract was one yielding 2,000 tons of powdered hemlock extract (55 percent tannin) per year. Using bark with 15 percent tannin, this plant would require 11,000 tons of bark per year. If the recoverable waste bark from Northwestern pulp and lumber mills averaged 7.5 percent tannin, 22,000 tons of bark would be required annually to produce the equivalent of 2,000 tons of 55 percent tannin extract, or 1,100 tons of 100 percent tannin. Larger plants could, without doubt, be operated more economically. On this basis, a plant producing 3,300 tons of 100 percent tannin would require 66,000 tons of bark. If the estimates of available tannin, based on the reported annual consumption of spruce, fir, and hemlock in the Northeastern states, are reasonably correct, there should be bark from these sources more than sufficient to operate three plants, each requiring 66,000 tons of bark.

These data on tannin content and quantities of available bark, however, are entirely inadequate to use in arriving at a final conclusion concerning the feasibility of the commercial recovery of tannin from Northeastern waste barks. Before such a conclusion can be drawn, a careful and thorough survey conducted along the lines suggested should be made. Through the full cooperation of interested mills, the required data as to kinds and quantities of bark available could be obtained. This information, together with complete data on tannin content, obtained after examination of a large number of run-of-mill samples, should indicate whether the commercial extraction of tannin from these waste barks would be feasible.

I have here for inspection small samples of tannin extracts made from red spruce bark, hemlock bark and maple bark; also pieces of leather tanned with these extracts. The tan-

Table III

Tannin Content of Various Barks

	Tannin Percent
Red Spruce bark—*Picea rubra*	13.0
Fir bark—*Abies balsamea*	3.4-4.1
Fir—Spruce (60%—40%)	4.2
Hemlock bark—*Tsuga canadensis*	12.2
Aspen bark—*Populus tremuloides*	4.9-5.0
Maple bark—(Rock, silver, white, sugar) 5.5, 9.4, 2.3, & 1.9	
Birch bark—*Fagus grandifolia*	1.4-4.8
Birch bark—(Yellow, white, silver, paper) 5 samples	1.5-5.3
Cherry bark	3.2
Pine bark—*Pinus strobus*	6.0

ning properties of hemlock bark are well known but those of spruce and maple barks are not so familiar. The maple extract has not been studied in detail but it gives a tannage which in a preliminary test appears to be quite similar to that produced by chestnut wood.

In connection with the salvage and utilization of bark from oaks of the scrub oak type, we have conducted some work in cooperation with the Engineering and Industrial Experiment Station, University of Florida, and are now preparing the results of this study for publication. This paper will give considerable data on the tannin content of scrub oak bark from tree trunks, limbs, and branches.

Table IV
Potential Tannin Supplies

*Kind of Bark**	*Cords of Wood*	*Tons of Bark*	*Tannin %*		*Tons of 100% Tannin*
Red Spruce & Fir	2,022,420	303,363	Spruce	13	20,507
			Fir	4	3,397
Hemlock	162,810	24,421	Hemlock	12	2,344
Maple & Beech**	205,947	30,892	Maple	9	1,112
			Beech	4.8	593
Pine***	303,023	45,453	Pine	6	1,363
Aspen	407,446	61,117	Aspen	5	2,444
			Total Tons Tannin		31,760

* No data on tannin were available for yellow poplar and oak.

** Information was not available concerning the relative amounts of beech and maple. The estimates have been assuming that these barks occurred on a 50-50 basis. The highest tannin values obtained were used.

*** Pine bark; 4 because we have found an abnormal loss of tannin in leaching pine bark, the tannin yields for this material were figured on a basis of 50% leaching efficiency.

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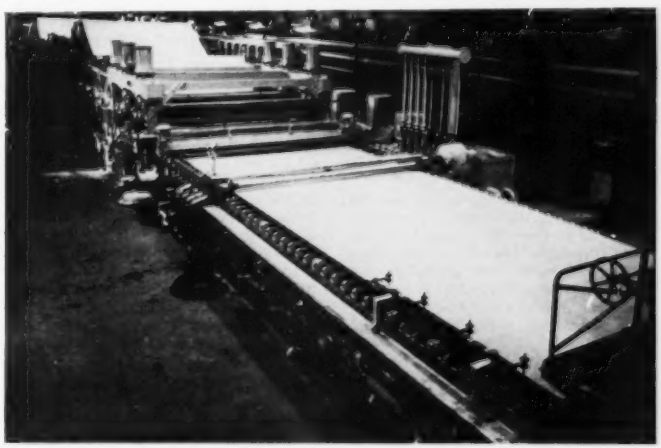
Mando's No. 4 Paper Machine Modernized

Recently rebuilt and modernized, the No. 4 paper machine at the Minnesota and Ontario Paper Company's Int'l. Falls mill is now in operation. This rebuilt paper machine, complete with new electric drive, head box, presses and Fourdrinier section, is now capable of producing a greater range of higher grade paper products than had previously been possible. The remodeling of the machine, coupled with the operation of new bleaching and pulping facilities, not only increases production capacity but produces new products and also gives a greater measure of operational flexibility.

It is expected that both bleached and unbleached kraft and sulphite grades will be processed on the newly designed machine.



Mando's No. 4 paper machine at International Falls gets the new look.

Featuring the latest type sectional electric drive, the revamped paper machine is capable of producing in excess of 120 tons per day. Its speed ranges from 200 to 1200 feet per minute. Prior to modernization this machine, in operation since 1910, had been powered by a 400 hp Corliss type steam engine and was driven through an English rope system drive. The new system consists of a motor generator set and eleven variable speed

DC electric motors. Electronic controls regulate and coordinate the units of the new "sectionalized" system.

The project includes the installation of four new Bird screens, replacing three of smaller size, and the replacement of the head box with one of larger capacity and improved design. Another feature of the modernization is the introduction of a new double slice, permitting more uniform stock flow control.

The Fourdrinier section had also been rebuilt and materially improved to obtain better stock formation and to permit increased machine speeds. Wire length has been increased from 70 feet to 100 feet and eight new suction boxes have been installed. A new 36-inch diameter suction couch roll replaces one of smaller proportions. The addition of another suction press and a smoothing press was also included in the rebuilding process.

Increased dryer capacity has been provided with the installation of a section of seven new dryers, contributing materially to the machine's productive capacity. Also, a size press has been added to the machine to permit the manufacture of offset and other surface sized fine papers.

On the dry end of the machine, the calender stack frames have been remachined and replaced, and the latest design of Pope type reel has been installed.

The modernization and improvement of the No. 4 paper machine is a part of Mando's $17,000,000 improvement program, started in 1945, to be completed this year.

Wood Procurement and Utilization

By H. J. HODGINS

Chief Forester, Pacific Mills Ltd.

In Two Parts—Part I

During the pioneering days on the coast of British Columbia the forests impeded progress, in fact they were almost considered a detriment. Trees had to be cleared from the land and burned to provide espace for settlements; forests interfered with overland transportation. Wood procurement at that time was concerned principally with defence stockades, log cabins and fuel. The subject of wood utilization, as we know it today, was unheard of, nor was it of importance because our predecessors believed that British Columbia had in abundance what it needed least, a vast potential of forests.

In the year 1788 the first known commercial use was made of the coast forests. Incidentally, that was for ship spars for China and it is of significance to note that our timber industry had its start with an export market. A new business was created for British Columbia and wood procurement began to assume a different aspect.

However, it was not until about 100 years ago that our coast forest industry began to grow in earnest and sawmills gradualy became established. During the early part of this century the pulp & paper industry commenced to develop. Since the construction of the first sawmill near Victoria in 1848 the coast forest industry has progressively expanded to its present position, known to all of you, with modern sawmills, shingle mills, plywood plants, pulp & paper mills, etc. and a great variety of secondary wood using industries. This industry with its humble beginning of 100 years ago now exerts a tremendous economic force on behalf of every citizen of this Province. It is vitally important and yet we have been inclined to take it for granted, human nature running true to form. However, we are gradually beginning to fully appreciate the full implication of the fact that B.C.'s forest industries are responsible for producing at least 40-50 percent of the Provincial wealth.

This industry was made possible because of: (1) an abundant natural wood supply; (2) mechanical developments in log extraction and manufacturing processes; (3) competitive but profitable export markets.

During the past 100 years we have been concerned chiefly with the development of an industry. We have gone through this period without much action so far as the more exacting phases of timber management are concerned. In fact, there was no urgent necessity for acting otherwise because it was known that B.C. had a tremendous resource of static overmature forests which were of no value to the Province without an industry and their true worth could not be assessed until an industry was established. In addition, this was a young Province which needed capital to develop roads, schools, social services, etc. To do this work it needed industries. What was more natural than to turn to a dormant timber resource for a solution. That is exactly what did happen.

The Honorable Wm. Ross, a former Minister of Lands of this Province, made these remarks in the legislature in 1912: "Here in B.C. was the timber; here the crying need for public revenue to open up the Province, for capital to invigorate our anemic industries and there—throughout the older regions of the continent was the capital we needed."

These remarks were made in explanation of the government's policy which sought a forest industry by the granting of free cutting rights on government timber during the period of 1905-7. By thus purposefully encouraging an industry with a liquidation forest policy the Hon. Wm. Rose further had this to say:

"Attention was also attracted to our other natural resources, investments therein followed and the public revenue increased".

Thus we find that out of necessity, the people of British Columbia, through their own government, have deliberately used the forests as a social bonus. In the meantime a forest industry has been develop without seriously considering the future of that industry.

In recent years, however, we have been viewing this situation in a different light. Now that a valuable industry has been created and the initial hurdles of essential public requirements have been cleared we no longer need the forest resources as a staff to lean upon irrespective of the consequences. We are moving towards a policy of forest management which has as an objective maintaining the economic benefits which result from this forest industry.

It might be said, therefore, that during the past 100 years we have developed a forest industry based on a perspective of wood procurement and utilization related to British Columbia's particular needs.

In the future we can expect a modification in this perspective whereby wood procurement and utilization also will be correlated with long range forest management objectives or sustained yield management.

In passing may I interject a thought at this point that is not entirely related to the subject of this paper. B.C. is fortunate in one respect inasmuch as the liquidation process of the forest resources has not jeopardized seriously, if at all, sustained yield objectives for the present industry. If one examines the records it will be found

One of series of lectures to the student body of the University of British Columbia presented under the auspices of the Pulp and Paper Research Institute of Canada and the Western Branch of the Canadian Pulp & Paper Association.

that only from 1935 onward the annual cut from coast forests was steadily in excess of 2¼ billion board feet, the cut varying from 2.4 to 3.3 billion up to the end of 1947, the latest year for which records are available at this time. The Forest Service estimates the sustained yield capacity at 2 billion feet. By accepting the latter figure, which there is good reason to believe is conservative, we conclude that coastal forests as a whole have been overcut only during the 13 year period quoted to the extent of about 25 percent. When it is realized that the majority of this overcutting took place during buoyant market conditions, which are certain to level off, and when the degree of accuracy of the basic data used in compilation of the sustained yield estimate is fully considered, I do not think that any professional forester in this Province can say that there is cause for alarm. However, we should start putting our forest farms in order while British Columbia is still in a sound position with regard to its ability to balance cutting budgets on the coast with sustained yield principles. In fact, I believe, that under a reasonable type of forest management, coast forests should eventually support a much greater industry than they do at present.

As forest policies develop to maintain or expand the benefits derived from the forest industries our conception of wood procurement and utilization will also change. Any changes which are made must of necessity be controlled by economic limitations. There can be no Utopian revision of these processes because B.C.'s forest industry still depends on competitive world markets. Progress in wood procurement and utilization methods preferably should follow a natural evolutionary pattern.

Primitive Methods of Logging

The first logging on this coast was accomplished by hand methods. Eventually oxen were used in the woods, thus permitting the transportation of logs from more distant locations to tidewater. During the oxen era only the finest timber was merchantable. We do not know much about the utilization aspects but it is reasonable to assume that the percentage of wood used compared with the original volume on the logged areas was small. The residue was not always inferior material. There were times when the largest and superior logs were so heavy that they could not be moved by oxen. Only the best of what could be logged was taken. In those days stumps were cut very high. A large section of the site of the City of Vancouver was logged in this manner, a particular example being Stanley Park where there is a fine area of second growth standing among high stumps. This area was logged by oxen about 70 years ago.

Table 1

Total usable volume remaining (Minimum standards 6" top & 12' length)	5.9 M. per acre		
Percentage of volume remaining compared with volume logged	7.8%		
Distribution of remaining volume:			
High Stumps	3.7%	averaging	35 F.B.M.
Tops	2.7%	"	34 F.B.M.
Broken Logs and chunks	49.1%	"	74 F.B.M.
Saplings	13.2%	"	53 F.B.M.
Cull logs	23.9%	"	230 F.B.M. (sound wood)
Normal logs	7.4%	"	170 F.B.M.
Total	100.0%		

Early sawmill practice was crude but it was designed to produce a marketable product as cheaply as was possible at the time. As may be expected the varieties of lumber produced were limited.

Eventually steam power replaced the oxen in the woods. Steam roaders, donkeys and railroads ushered in the next phase of logging. British Columbia's local and export markets were rapidly developing and mills continued to be constructed. Wood procurement and utilization was concerned, as before, with the type of material that could be marketed at a profit. It is of interest to note that at one time a hemlock log had practically no value whereas today it is recognized as one of British Columbia's most valuable species.

The third and present stage of wood procurement concerns the use of fast, powerful gas and diesel yarders and cold-deckers, tractors, main liner railroads, motor trucks and trailers, gas and electric power saws, special road building equipment, etc. Present logging methods are characterized by their flexibilities; hitherto inaccessible forests have become accessible; and wood recovery programs have developed to the point where a greater percentage of wood is now removed from the forest area than ever before. We have progressed to this point of greater wood recoveries over a long period of years.

In the past, wood procurement for manufacturing plants have been concerned largely with log extraction processes. However, what may have been waste material in one plant, or may have had some secondary minor value, now provides raw material for other processing units. As an example, sawmill slabs formerly used for fuel or burned are converted to chips for pulp mills. We are on the threshold of an era of integrated use.

Utilization practice in the forest has reached its highest peak in the history of this coast. This has been due to the diversification of manufacturing plants and developments is logging and manufacturing equipment. Recent progress in utilization undoubtedly has been accelerated by the inflationary market conditions of recent years. Whether or not the present status of wood utilization can be maintained or further intensified under normal or sub-normal conditions has still to be determined.

Pulpwood

In discussing detail phases of wood utilization my remarks will be confined chiefly to the pulp & paper industry.

Like other wood using industries, the Pulp & Paper Industry has been undergoing a change in the class of wood used and consequently wood procurement and utilization aspects have altered.

The basic pulp species for the majority of B.C.'s pulp production are western hemlock, Sitka spruce and silver fir (balsam). When Kraft pulp is manufactured Douglas fir and Western red cedar can also be used. A more recent development concerns the use of lodgepole pine by the Kraft process. One coast mill is now transporting this species 200 miles by rail from the Interior of the Province, making lodgepole pine the first Interior species to be used commercially for pulp, so far as my information is concerned. Incidentally, the pine is cut into 4 foot lengths and has a diameter range usually varying from 6" to 12". Our concept of desirable species has altered considerably. At one time Sitka spruce was regarded as the best pulp species whereas today Western hemlock is considered as being the best all round species.

During pre-war years pulp mill logs commonly averaged 18"-24" in diameter and 32'-40' long. A small log with a diameter of 6" was rare. Logs highly suitable for other purposes often found their way into the pulp mill.

Subsequently the trend has been towards a smaller log average and a greater diversification of end use of logs.

Appreciable quantities of logs as low as 6" in diameter are now being manufactured into pulp. In some cases small logs are transported by tidewater in bundles with lengths in multiples of 8'. In the majority of cases, however, small logs arrive at the mill in random lengths mixed with normal logs or booked separately, sometimes in bundles. Re-logging and primary clean logging operations the the source of such material.

As mentioned before, normal sawmill slabs are also being used for pulp.

Recently there has been an increase in the use of sub-standard quality wood such as cull logs and knotty logs. This practice was developed during a period of unrestrained market conditions and there is a good possibility that it will not survive under normal competitive conditions.

Log sorting and grading by pulp

companies for usage other than pulp production has developed considerably as a result of favorable market conditions during the past few years. Higrade lumber logs and peeler and shingle grade logs are now disposed of to obtain the most profitable returns. A greater integrated use of raw material is a natural development.

As a general statement of fact it may be said that utilization practice in pulp & paper, like any other industry, has been geared to the economic aspects of log extraction and processing. The trend has been to develop methods that will make greater use of and thus conserve raw wood materials without jeopardizing the quality of the finished product.

This criterion will hold true for the future as it has in the past, regardless of those who would have us believe that the pulp industry should be the ashcan of the wood business. I might also add that unqualified comparisons of wood utilization between the pulp industry on the coast of British columbia with other parts of Canada or the world cannot be made. The B. C. coast industry has problems particular to this locale which have to be met on the grounds of quality merchandise for highly competitive markets.

The different pulping characteristics of various species is a subject which will be covered by others who are more qualified to discuss this subject. However, one characteristic which is important to both loggers and pulp processors is the specific gravity of wood.

So far as the pulp mill is concerned its production tonnage can be almost directly related to the density of the wood utilized. It is therefore necessary to know how much paper can be produced per unit of wood before a true analysis of wood costs can be obtained. This is particularly essential when undertaking better utilization practice in the woods.

An intimate knowledge of wood density by species, regions, various qualities of wood, etc. is essential if an accurate costing analysis is to be made for pulp production. In other words, the physical measurement of wood quantity should include wood density.

The density factor can influence wood costs and utilization practice in many ways. For example, we know that the density of Western hemlock has a wide regional variation, probably as much as 15%. Hemlock produced for a pulp mill from a region which 15% greater density than another region is worth just that much more to the pulp mill, and utilization standards in the logging and pulp mill operation may be influenced according. This of course, is not true for sawmill production. In fact the reverse influence is felt if freight charges on lumber have to be paid.

Another example concerns small timber which occurs in old growth virgin stands. These small trees are suppressed by the larger ones and are very slow growing. The density of this class of wood could easily be greater than that of the top story of the forest. Under normal conditions the small suppressed growth is rarely logged, for economic reasons, but when this type of material is recovered for pulp by salvage logging operations or primary clean logging methods a true appraisal of its cost related to net worth to the pulp mill cannot be made without considering the density factor.

Other points could be mentioned in this connection but this should be sufficient to illustrate the importance of wood density with respect to valuating wood for pulp usage and the consequent effect this could have on utilization standards.

Patent Abstracts

2,452,992—Coating composition of fatty drying oils reacted with fatty acid modified polyhydric alcohol esters of cyclopentadiene maleic adduct. William H. Butler, Bloomfield, N.J., assignor to Bakelite Corp., a corporation of New Jersey.

Composition useful for coatings comprising the reaction product of a fatty drying oil with a polyhydric alcohol ester of a cyclopentadiene-maleic adduct and a reactant in amount sufficient to impart to the ester solubility in fatty drying oils, said reactant selected from the group consisting of monobasic fatty acids having 5 to 22 carbon atoms in the chain and their partial esterification products with a polyhydric alcohol, the fatty drying oil constituting at least 10% of the reaction product, and the product being characterized by polymerizing and increasing its viscosity upon heating more rapidly than the fatty drying oil alone.

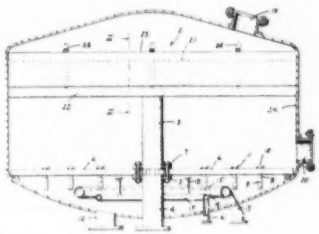
2,453,275—Preparation of mixed saturated-unsaturated esters of cellulose. George W. Seymour, Blanche B. White, and Elisabeth Barabash, Cumberland, Md., assignors to Celanese Corp., of America, a corporation of Delaware.

Process for the production of mixed organic acid esters of cellulose containing radicals of both saturated and unsaturated aliphatic acids having at least four carbon atoms in the acid radical, which comprises esterifying cellulose with an esterification medium comprising an inorganic acid esterification catalyst, about two mols of the anhydride of a saturated aliphatic acid and one mol of the anhydride of an unsaturated aliphatic acid, each having at least four carbon atoms in the acid radical, allowing the esterification to proceed, adding an additional amount of the saturated aliphatic acid anhydride, and allowing the esterification to proceed to completion.

As a new article of manufacture, cellulose butyrate-crotonate containing from 0.2 to 0.3 crotonyl groups per glucose residue.

2,453,345—Filtering apparatus. Stuart B. Row, Roanoke, Va., and Edward L. Woolley, Morton, Pa., assignors to American Viscose Corp., Wilmington, Del.

In a filter comprising a vessel having an inlet conduit and an outlet conduit, means for supporting a filter bed in the vessel, and means below the filter bed for introducing a fluid for backwashing upwardly through the bed, a launder construction comprising a walled receptacle in the vessel, means for supporting the receptacle above the filter bed, said receptacle being open for communication with the region therearound adjacent an upper level in the receptacle and an upper level in the vessel, said receptacle having an outlet conduit for discharge of backwashed material, sloped baffle means extending downwardly and outwardly from the receptacle, additional baffle means outside the receptacle and spaced therefrom having an upper rim above the level of com-



munication of the receptacle with its surrounding region and a lower edge spaced above, and inwardly from the outer edge of, the sloped baffle means and below the level of communication between the receptacle and its surrounding region.

In a filter comprising a vessel having an inlet conduit and an outlet conduit means for supporting a filter bed in the vessel, and means below the filter bed for introducing a fluid for backwashing upwardly through the bed, a launder construction comprising a walled receptacle in the vessel, means for supporting the receptacle above the filter bed, said receptacle being open for communication with the region therearound adjacent an upper level in the receptacle and an upper level in the vessel, said receptacle having an outlet conduit for discharge of backwashed material, sloped baffle means extending downwardly and outwardly from the receptacle, additional baffle means outside the receptacle and spaced therefrom having an upper rim above the level of communication of the receptacle with its surrounding region and a lower edge spaced above, and inwardly from the outer edge of, the sloped baffle means and below the level of communication between the receptacle and its surrounding region, and pressure relief means communicating with a region below the sloped baffle means and with a more elevated region outside the additional baffle means.

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Trends

Office of the PAPER TRADE JOURNAL,
Wednesday, April 20, 1949.

Newsprint

Indications that supply and demand for newsprint are nearing a balance appear in the marked drop in spot prices from $140/$160 a ton in January to the $100 level, reportedly asked last week for large quantities of top quality paper. Figure of $97 also reported is held to be an isolated instance of price cutting and distress selling, representative of several such lots which have been around the market in the last few weeks.

Summary of the increased supply situation is provided in statistics of the NSA, NAC and ANPA. Total apparent U.S. supply in the first three months of the year was 9.9 percent more than in 1948. Of this increased tonnage, Canadian and Newfoundland mills provided 64,960 tons, U.S. imports from Europe 33,717 tons or 60.4 percent gain, and U.S. mills 25,075 tons or 12.7 percent, a total gain for the January to March period of 123,752 tons.

Apparent total U.S. consumption during the period was 1,276,344 tons, a gain of 6.0 percent, with reporting newspapers using 1,008,311 tons, an increase of 7.4 percent over the first three months of 1948, and 21.8 percent over 1947's period.

Advertising during the same three months in New York newspapers gained by 4.89 percent, according to compilation of Media Records. All classifications gained except financial. Automotive linage gains were 60.34 percent, general 8.04 percent, retail 2.9 percent, and classified 0.69 percent. In 52 U.S. cities, newspaper advertising linage for the first two months was 1.3 percent higher than in the corresponding period of 1948.

For the month of March, total estimated U.S. newsprint consumption was 464,414 tons, an increase of 7.1 percent over March 1948.

Stocks on hand and in transit at the end of March 1949, were 40 days supply for the average of all dailies reporting to the ANPA, four days less than end of February stocks, but a gain of 8 days over March, 1948. Mill stocks at U.S. mills were 9,780 tons, at Canadian mills 107,710 tons, and at Newfoundland, 70,031 tons, a combined Continental total of 187,521 tons compared with 150,374 on February 28, 1949, and 159,477 tons at the end of March, 1948.

Current heavy demand for newsprint is expected to be required for advertising linage to support a vigorous buyers' market. No over-supply is seen existing in the present tonnage, and indications are that contract prices will not be disturbed, particularly while wood and labor costs remain at present high levels, mill agents state. Premium spot prices are, however, gone from the New York and Atlantic seaboard areas, although publishers in the south and other distant points are still in need of contract newsprint and are having to buy additional requirements at some premium.

Book Paper

Operation of the law of supply and demand on uncoated book (offset) and machine coateds (*slick* magazine stock and better grades) has brought adjustments of ½c a pound from one major producer and several smaller mills, it is reported. Demand for *book* has been sagging for several months with the drop-off in magazine requirements, while more efficient production has provided ample supply. Comparative AP&PA figures for February, Table I, show the trend.

Table I
Comparative Figures
Printing & Similar Paper

	Feb. 1949	Feb. 1948
Production	*235,000	250,382
New Orders	220,000	236,609
Shipments	227,000	251,898
Orders Unfilled	186,000	254,602
Stocks	102,000	67,740

* Short tons.

Tissue Paper

Similar conditions of supply and demand explain the definite easing in tissue prices during the last few months which has wiped out premium prices and brought grades into normal relationships. Reductions averaging 40 cents a ream are reported in detail under *Prices*. Production statistics are not available.

Return to the market of adequate supplies of household tissues, napkins of assorted sizes and colors, facial and toilet tissues in many colors and grades, tablecloths, draperies, etc., are weighty evidence that building of U.S. per capita consumption is on the march.

Canadian Market

Report from Montreal indicates that the fluctuations in the U.S. market have not been reflected in the Canadian paper market for the past year. Fine papers are in good supply with reasonably prompt delivery. Prices are firm. Color standards have been improved and are generally comparable to prewar standards. Present labor contract expires April 30. New contract will be negotiated and some further demand will be made.

Wood Pulp

Early indications that the West Coast earthquake of April 13 would wreak havoc to U.S. pulp production in that section appear to be greatly exaggerated. No damage is reported in areas above Seattle, and estimates of losses incurred at Tacoma and Longview are felt to be premature, though some interruption to production has been experienced, it is said. Any expectation that the quiet of the wood pulp market would be altered by the catastrophe proved optimistic.

Trading on the market is dull. Most mills are still able to draw on inventories and are taking in minimum requirements. Others have reduced inventories to the safety low and are shopping for immediate needs. Scandinavian importers who are able to deliver from standing stocks report satisfactory business developing.

Prices are quotably unchanged, but reports of *deals* abound, particularly in Scandinavian pulp.

World Wood Pulp Study

Of high interest to U.S. wood pulp producers and consumers is the Montreal conference for the study of world wood pulp production, distribution and consumption, to be held April 25 to May 5 as an activity of the United Nations Food and Agriculture Organization. Industry and government delegates are being appointed by the State Department; and it is expected that the CPPA will serve as host to the conference.

Sweden's Problems

"Among Sweden's foreign trade problems, there is none upon which more attention is focused than that of promoting exports to the dollar area", said Ingemar Hagglof, Counselor at the Swedish Embassy in Washington, in an address at the 43rd annual luncheon of the Swedish Chamber of Commerce on March 22 at the Waldorf-Astoria. "This task," Mr. Hagglof said, "has top priority in Sweden's export drive. In view of the dominating role of cellulose as a dollar earner, this is one of the country's principal headaches."

Indexes

Index of general business activity for the week ended April 9 rose to 146.7 from 145.6 in the preceding week, compared with 142.6 in the corresponding week of 1948. Index of paperboard production climbed to 157.9 from 147.8 in the preceding week, compared with 192.0 in the corresponding week of 1948.

Comparative ratios of U.S. paper and paperboard production to mill capacity, as reported by AP&PA are:

	Apr. 9 1949	Apr. 2 1949	Apr. 10 1948	Apr. 11 1947	Apr. 12 1946
Paper**	87.6	87.0	102.4	100.7	103.6
Paperboard	77.0	75.0	103.0	96.0	101.0

** Capacity in tons: 180,061; 1948, 174,668.

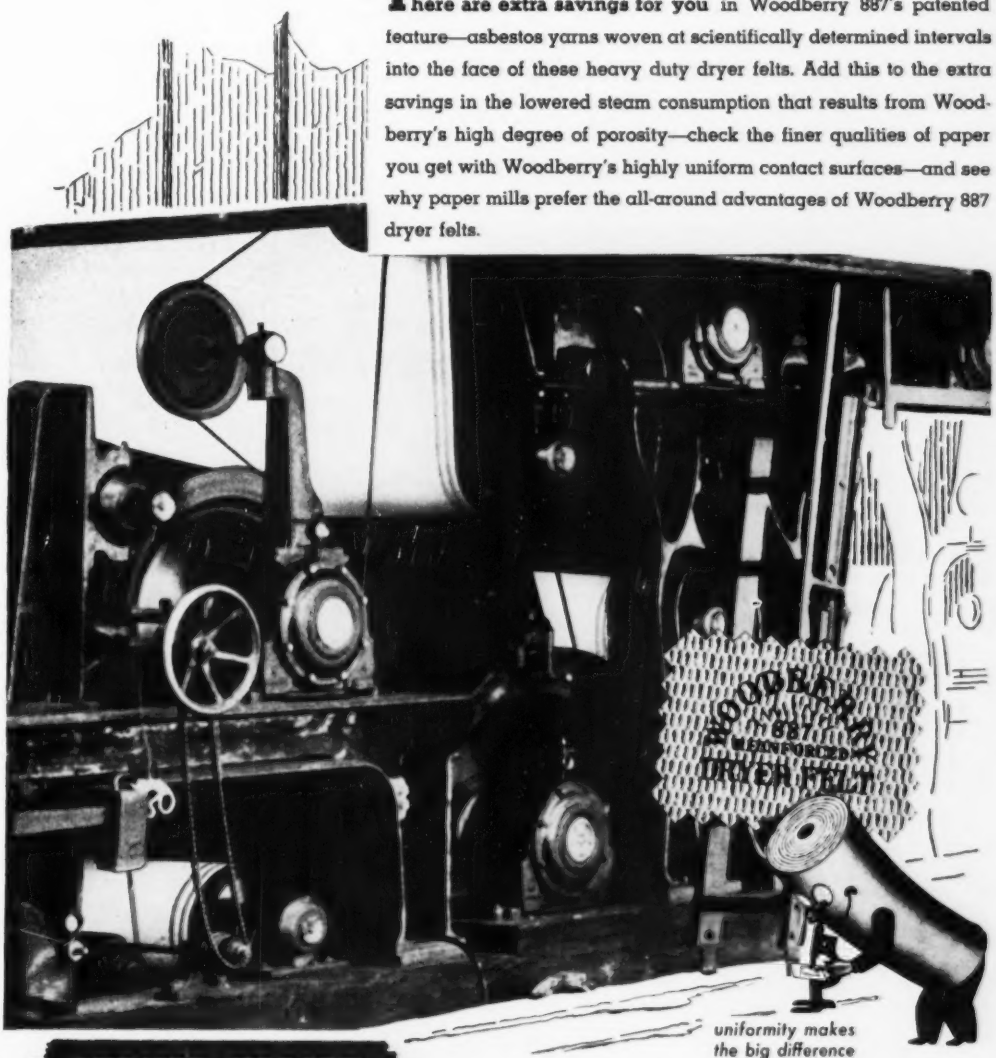
Paperboard Production (Tons)

	Apr. 9 1949	Apr. 2 1949	Apr. 10 1948
Production	159,449	149,918	193,573
New Orders	173,654	178,967	163,880
Unfilled Orders	287,725	171,986	434,430

Percent of Activity, Current 77%; Year, 83%.

Savings are Higher With This Better Dryer Felt

There are extra savings for you in Woodberry 887's patented feature—asbestos yarns woven at scientifically determined intervals into the face of these heavy duty dryer felts. Add this to the extra savings in the lowered steam consumption that results from Woodberry's high degree of porosity—check the finer qualities of paper you get with Woodberry's highly uniform contact surfaces—and see why paper mills prefer the all-around advantages of Woodberry 887 dryer felts.



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Imports

Week Ending April 16

NEW YORK

Newsprint

N. Y. World Telegram, Tudor Prince, Cornerbrook, 740 rolls.
Hearst Enterprises, Inc., Tudor Prince, Cornerbrook, 83 rolls.
N. Y. Times, Tudor Prince, Cornerbrook, 1323 rolls.
Wall St. Journal, Tudor Prince, Cornerbrook, 202 rolls.
Madden Reeve Angel & Co., Inc., Saimaa, Helsingfors, 399 rolls.
Montmorency Paper Co., Brigus, St. Johns, 1163 rolls.
N. Y. Journal American, Markland, Liverpool, N.S., 581 rolls.
N. Y. World Telegram, Markland, Liverpool, N.S., 1705 rolls.
Brooklyn Eagle, Markland, Liverpool, N.S., 724 rolls.
Brooklyn Eagle Press, Inc., Markland, Liverpool, N.S., 56 rolls.
Philadelphia Inquirer, Markland, Liverpool, N.S., 2 rolls.
Richmond Newspapers, (Richmond, Va.), Markland, Liverpool, N.S., 1574 rolls.
Price & Pierce, Ltd. (Richmond, Va.), Markland, Liverpool, N.S., 302 rolls.
Pepper Printing Co., (Richmond, Va.), Markland, Liverpool, N.S., 75 rolls.
Madden Reeve Angel & Co., Inc., Siljan, Helsingfors, 557 rolls.

Serviettes

Brundage Merchandise Co., Averdyk, Antwerp, 10 cs. (crepe).
H. W. Robinson Co., American Ranger, London, 3 cs.

Tracing Cloth

Keuffel & Esser Co., American Builder, Manchester, 6 cs. (bleached cotton).

Tracing Paper

International Expediters Inc., Ogna, Rouen, 1 cs.

Wallpaper

American Express Co., Wyoming, Havre, 14 cs.
R. F. Downing & Co., American Farmer, Havre, 7 cs.
C. A. Haynes & Co., Parthia, Liverpool, 14 cs.

Towels

H. W. Robinson Co., American Ranger, London, 1 cs.

Filter Paper

H. Reeve Angel & Co., Inc., American Ranger, London, 20 cs.

Drawing Paper

H. Reeve Angel & Co., Inc., American Ranger, London, 1 cs.

Paperhangings

Sears Roebuck Co., American Ranger, London, 450 ctns.

Woodveneer Paper

Stevens Nelson Paper Corp., Tromont, Yokohama, 3 cs.

Gummed Paper

B. F. Drakenfeld & Co., Parthia, Liverpool, 7 cs.

Bowl Paper

Hurley Johnson Corp., Parthia, Liverpool, 30 bls. (round cut).

Tissue Paper

B. F. Drakenfeld & Co., Parthia, Liverpool, 44 cs.

Miscellaneous Paper

F. Henjes Jr., Gripsholm, Gothenburg, 1 cs.
Tilman Import & Forwarding Co., American Farmer, Havre, 6 cs.

Rags, Baggings, Etc.

Textile & Paper Supply Corp., Jessie Maersk, Antwerp, 3 bls. rags.
(———), Jessie Maersk, Antwerp, 17 bls. scrap bagging.
Midwest Waste Material Co., Jessie Maersk, Antwerp, 123 bls. scrap bagging.
Padawer Waste & Fiber Co., Dona Aniceta, Shanghai, 100 bls. cotton waste.
New England Waste Co., Dona Aniceta, Shanghai, 200 bls. cotton waste.
Cohn, Hall Marx, Dona Aniceta, Shanghai, 100 bls. cotton waste.
Melchers, Inc., Dona Aniceta, Shanghai, 291 bls. cotton waste.
Empire Fiber Co., Dona Aniceta, 100 bls. cotton waste.
China Trade & Industrial Service, Mandeville, Shanghai, 300 bls. cotton waste.
Irving Trust Co., Weybank, Calcutta, 56 bls. jute rags.
(———), Weybank, Bombay, 100 bls. jute rags.
Padawer Waste & Fiber Co., Weybank, Bombay, 50 bls. cotton waste.
Royal Manufacturing Co., Weybank, Bombay, 75 bls. cotton waste.
Brandwein Mazur Co., Weybank, Bombay, 200 bls. cotton waste.
W. J. Byrnes, Weybank, Bombay, 100 bls. cotton waste.
C. Comiter, Waybank, Bombay, 85 bls. jute rags.
National City Bank, Exminster, Bombay, 200 bls. old jute rags.
M. O. Schimmel, Exminster, Bombay, 172 bls. old jute rags.
(———), American Builder, Manchester, 91 bls. new cotton gabardine cuttings.
Midwest Waste Material Co., Edam, Antwerp, 50 bls. scrap bagging.
Irving Trust Co., Tekla, Santos, 392 bls. old bagging.
Harris Goldman Co., Gripsholm, Gothenburg, 89 bls. scrap bagging.
Royal Manufacturing Co., Fairland, Antwerp, 48 bls. cotton waste.
Manufacturers Trust Co., American Ranger, London, 33 bls. cotton rags.
New England Waste Co., Clan MacFarlane, Tuticorin, 500 bls. cotton waste.
E. J. Keller Co., Inc., Hoegh Silvermoon, Bombay, 100 bls. old jute rags.
Zalenko & Co., Hoegh Silvermoon, Bombay, 100 bls. cotton waste.
Volkart Bros., Hoegh Silvermoon, Bombay, 50 bls. cotton waste.
Riverside Mills, Temaraire, Shanghai, 357 bls. cotton waste.
C. Comiter, Temaraire, Shanghai, 200 bls. cotton waste.
Chase National Bank, Parthia, Liverpool, 20 bls. hosiery clips.

Old Rope

(———), Weybank, Calcutta, 25 bls. rope cuttings.
R. L. Pritchard & Co., Weybank, Calcutta, 70 bls. rope cuttings.
(———), Exminster, Calcutta, 135 bls. old hemp rope cuttings.

Gluestock

Transatlantic Animal By-Products Co., Dona Aniceta, Hong Kong, 250 bls.
Transatlantic Animal By-Products Co., Tekla, Santos, 250 pkgs.
H. Remis, Seatrain New Jersey, Havana, 117 pkgs.
Transatlantic Animal By-Products Co., Seatrain New Jersey, Havana, 226 pkgs.
H. Remis, Hornero, Buenos Aires, 29 bags.
H. Remis, Seatrain Texas, Havana, 430 pkgs.
Karr Ellis Co., Parthia, Liverpool, 299 bags.
Transatlantic Animal By-Products Co., Parthia, Liverpool, 202 bags.

Woodpulp

Cellulose Sales Co., Gripsholm, Gothenburg, 1 case.

Woodpulp Boards

National City Bank, Siljan, Helsingfors, 227 rolls, 12 bls. (solid white).

BOSTON

Green Textile Associates, Pres. Polk, Bombay, 200 bls. cotton waste.
Empire Fiber Co., Temaraire, Shanghai, 100 bls. cotton waste.
Irving Trust Co., Temaraire, Shanghai, 100 bls. cotton waste.

PHILADELPHIA

Madden Reeve Angel & Co., Inc., Saimaa, Helsingfors, 565 rolls newsprint.
Pulp Sales Corp., Saimaa, Helsingfors, 3510 bls. sulphite pulp.
(———), Wyoming, Antwerp, 176 bls. old bagging.
American Express Co., Wyoming, Havre, 2 cs. wallpaper.
Jay Madden & Co., Siljan, Helsingfors, 525 rolls wrapping paper, 276 rolls newsprint.

BALTIMORE

Pulp Sales Corp., Saimaa, Helsingfors, 3650 bls. sulphite pulp.
W. C. Jones, Ogna, Rouen, 80 bls. cotton waste.
Stora Kopparberg Corp., Siljan, Skutskar, 2260 bls. dry woodpulp, 452 tons.

NORFOLK

F. P. Gaskell & Co., American Builder, Glasgow, 75 cs. cigarette paper.
Ayres, W. C. Jones, Ogna, Rouen, 62 bls. cotton waste.

Canadian Carloadings

OTTAWA—Carloadings on the Canadian railways of woodpulp and paper from the beginning of this year until the week ended April 2 dropped to a cumulative total of 56,670 cars as compared with 58,582 cars a year ago in the similar period, the Canadian Government announces.

The Eastern Division accounted for 49,397 cars this year as against 51,008 cars a year ago and the Western Division for 7,273 cars as compared with 7,574 last year during the same period.

Such carloadings declined to 3,926 cars for the week ended April 2 this year against 3,940 for the preceding week ended March 26 and 4,693 cars for the week ended April 3, 1948. The Eastern Division comprised 3,464 cars for week ended April 2 against 3,403 in preceding week and 4,143 cars for week ended April 3, 1948. The Western Division included 462 cars for week of April 2, 1949, against 537 week of March 26, and 550 cars for week ended April 3, 1948.

Stone Corp. Building

MIMICO, Ont. — The Stone Straw Corp. of Canada plans to erect a one-story and basement factory building at an estimated cost of $150,000.

Magnolia Leases Space

HOUSTON, Tex.—The Magnolia Paper Co. has leased some 12,000 square feet of space in the H. H. Sanders, Sr., warehouse on First street.

THIS IS WHY
FARREL ROLLS LAST SO LONG
The hardness and depth of the white iron "skin" or chill of a calender roll are the principal factors affecting the service life of a roll.
SURFACE HARDNESS prolongs accuracy of the roll face and, as a result, lengthens the time between regrindings.
CHILL of correct depth means that the roll may be reground many times before its usefulness is ended.
The limiting factor, which determines depth of chill, is the strength of the roll. Chilled iron is relatively brittle; the roll strength lies principally in the gray iron structure of the body.
In every Farrel roll the thickness of chilled surface, intermediate mixed iron and gray iron body are combined in correct proportion to provide maximum service. That is why Farrel rolls last so long.
When you need rolls, consult Farrel. Complete information and engineering help are available to you, without obligation.
THIS BOOK WILL HELP YOU IN REGRINDING ROLLS
Contains many helpful hints on how to regrind rolls properly—determining the best rpm for the roll, deciding on wheel speed, setting the machine for grinding straight or crowned rolls, regulating wheel infeed, etc.
If you do not already have a copy of this handy 32-page manual, write for one today. Just ask for Booklet #114. No charge, no obligation.
Plants: Ansonia and Derby, Conn.; Buffalo, N. Y.
Sales Offices: Ansonia, Buffalo, New York, Boston, Pittsburgh, Akron, Chicago, Los Angeles, Tulsa, Houston.
Farrel-Birmingham

Prices

Quotations indicate trends in an open market. At the moment they can be of little more value. While some volume business still is done under contract at the figures shown, fluctuations are too varied and frequent to permit prices to be interpreted as representing a wholly stabilized market.

NEW YORK

Paper

Delivered New York

Standard News, per ton—

Rolls, contract	$100.00/ —
Sheets	115.00/ —

f.o.b. mill, varying freight allowances, Zone 1.

Kraft—per cwt., 40# base wgt.

No. 1 Wrapping Rolls	$7.75/$8.00
No. 1 Wrapping Sheets	8.25/ 8.50
Standard Wrapping Rolls	**7.00/ —**
Standard Wrapping Sheets	**7.50/ —**
Standard Bag	6.50/ —
Multiwall Bag, 40# and heavier, 24x36 (500 sheets)	
Southern	7.50/ 7.75
Northern	**8.85/10.15**

Tissues—per ream 24x36 (480) 10/11 lbs. 2500 lbs. or more

Wh. No. 1 Frd.	$1.60/$1.70
Wh. No. 1 M. G.	1.60/ 1.80
Wh. No. 1½	1.55/ —
Wh. No. 2	1.40/ 1.45
Kraft Anti-Tar	1.45/ 1.62
Kraft Unbl.	1.75/ —
Shrd. Wh. No. 1 per lb.	.11½/ —

Toilet—per case of 100 rolls—1 M sheets.

Unbleached 4½x4½	$6.80/ —
Unbleached 4½x5	5.85/ —
Bleached 4½x4½	7.70/ —
Bleached 4½x5	8.00/ 8.80
Per Case of 50 rolls—1500 sheets	
Unbleached 4½x4½	$5.50/ —
Per Case of 50 rolls—2000 sheets	
Unbleached 4½x4½	6.70/ —
Bleached 4½x4½	7.40/ —

Paper Towels—per case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$5.45
Br. Sr. M'tif'd 10x12	3.80
Br. Jr. M'tif'd 9½x9¼	3.30
Br. Jr. Sgl. fold 10x10¼	3.35

Manila, per cwt.

No. 1 Jute Tag, sheets*	$15.05/ —
Reg. Jute M.F. Manila, sheets*	13.50/ 15.50
No. 1 Manila Wrapping	8.75/ 10.50
Printing Manila	10.00/ 11.00

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$80.00/$82.50
Plain Chip	80.00/ —
Bkbd. Mls. L-4. Chip*	**102.50/105.00**
White Pat. coated*	120.00/
Kraft Liners 42 lb.	105.00/
Kraft Corr. .009	110.00/
Binders Boards	120.00/126.00

* Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds,

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$51.40/$53.90
100% Rag	44.55/ 46.15
75% Rag	33.90/ 35.40
50% Rag	28.10/ 29.55
25% Rag	24.85/ 26.80

Ledgers,

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$52.65/$54.55
100% Rag	45.65/ 46.40
75% Rag	35.15/ 35.80
50% Rag	29.40/ 30.05
25% Rag	26.15/ 26.80

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds,

	4 Ctns. per cwt.
No. 1	$18.35/ —
No. 2	17.50/ 18.80
No. 4	16.80/ 17.45

Ledgers,

	4 Ctns. per cwt.
No. 1	$19.65/ —
No. 2	18.80/ —
No. 4	18.10/ —

White Book,

	Conversion Coated Case per cwt.
No. 1	$20.75/$20.90
No. 2	19.50/ 19.65
No. 3	18.15/ 18.90
Machine Coated	
No. 1	16.65/ 17.15
No. 2	14.90/ 16.50
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	16.15/ 17.15
A Grade E. F.	15.40/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)

Coarse Polished—India	.35½/ .36½
Fine Polished India	.41½/ .45
Unpolished—Paper Makers	.32¾/ .34½
Tube Rope	.33¾/ .35½
Wrapping	.36 / .38¾
Cotton	.58 / .60
Polished Cotton	.55 / —
(Hard Fiber)	
Mex. Sisal	.21 / .27
(American Hemp)	
Polished Hemp	.46½/ .48
Unpolished	.35 / .37¾

World Wood Pulp Markets

Second Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowances		On dock Atlantic Ports Varying freight allowances		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$75.00/ —	$75.00/ —			
Siderums Pulping News		80.00/ 90.00			
Soda, Bleached	125.00/ —	125.00/ —		Competitive	
Sulphate, Bleached	$132.50/136.50	136.00/140.00	$130.00/140.00		
Sulphate, Unbl'd North'n	105.00/ —	105.00/112.50	105.00/112.50	with	
Sulphate, Unbl'd South'n	95.00/ —				
Sulphite Blchd. (S'ftw'd)	126.00/130.00	130.00/135.00	130.00/132.50	Canadian	$125.00/ —
Sulphite, Blchd. (H'dw'd)	125.00/ —				
Sulphite, Unbleached	115.00/118.00	118.00/ —	$110.00/118.00	Grades	
Sulphite, Unbl'd (Glassine)	121.50/ —	125.00/ —	122.00/127.50		

‡ Southern. § Flat: no freight allowed.

Waste Paper Market

Prices to Mills. Quotations Nominal

F.O.B. Shipping Point (Per Ton)

	New York Apr. 14	Philadelphia Apr. 4	Boston Apr. 16	Chicago Apr. 6
No. 1 Mixed Paper	$5.00/ —	3.00/ 5.00	$4.00/ $6.00	$5.00/ —
Boxboard Cuts	6.00/ 7.00	3.00/ 4.00	12.00/ —	7.00/ —
Mill Wrappers	12.00/ 14.00	6.00/ 8.00	15.00/ —	7.00/ —
No. 1 News	10.00/ 11.00	6.00/ 8.00	— / 9.00	11.00/ —
Over-issue News	15.00/ 16.00	8.00/ 10.00	11.00/ 12.00	15.00/ —
Corrugated Containers	11.00/ 12.00	9.00/ 10.00	10.00/ 11.50	12.00/ —
New Corrugated Cuts	15.00/ 16.00	18.00/ 20.00	16.00/ —	15.00/ —
Double Kraft Ld. Corr. Cuts	25.00/ —	25.00/ 30.00	25.00/ —	35.00/ —
Used Kraft Bags	25.00/ —	14.00/ 18.00	14.00/ 18.00	20.00/ —
No. 1 Brown Kraft Paper	nominal	20.00/ 25.00	25.00/ —	20.00/ —
Super Resorted Br. Kraft	30.00/ 35.00	30.00/ 32.00	40.00/ —	40.00/ —
New Br. Kraft Env. Cuts	70.00/ —	60.00/ 65.00	60.00/ 65.00	60.00/ —
New Br. Kraft Cuts	50.00/ 55.00	45.00/ 50.00	45.00/ —	40.00/ —
No. 1 Gdwd. Shvs.	20.00/ 25.00	14.00/ 16.00	25.00/ —	23.00/ —
White Newsblanks	65.00/ —	60.00/ 65.00	— / 60.00	40.00/ —
No. 1 Flyleaf Shvs.	30.00/ 35.00	18.00/ 20.00	35.00/ 40.00	35.00/ —
No. 1 Soft Wht. Shvs.	**65.00/ 70.00**	60.00/ 65.00	70.00/ 80.00	55.00/ —
Super Soft Wht. Shvs.	85.00/ 90.00	80.00/ 85.00	80.00/110.00	65.00/ —
Hd. Wht. Shvs.	80.00/ 85.00	70.00/ 75.00	80.00/ —	90.00/ —
Hd. Wht. Env. Cuts.	95.00/100.00	90.00/ 95.00	90.00/105.00	90.00/100.00
New Manila Env. Cuts.	60.00/ 70.00	60.00/ 65.00	60.00/ 70.00	65.00/ —
Col. Tab Cards	30.00/ 40.00	— / —	— / —	— / —
Manila Tab Cards	60.00/ 65.00	55.00/ 60.00	65.00/ 75.00	55.00/ —
No. 1 Mixed Ledger	30.00/ 32.50	20.00/ 25.00	37.50/ —	30.00/ —
White Ledger	35.00/ 40.00	30.00/ 35.00	45.00/ 50.00	35.00/ —
Mixed Books & Mags.	7.00/ **8.00**	7.00/ 8.00	12.00/ —	5.00/ —
No. 1 Rep'd Hvy. Books & Mags.	15.00/ 17.00	10.00/ 12.00	22.00/ 23.00	20.00/ —

Rag Market

New Domestic Cotton Cuttings

(Prices to Dealers, F.o.b. Ship. Pt.)

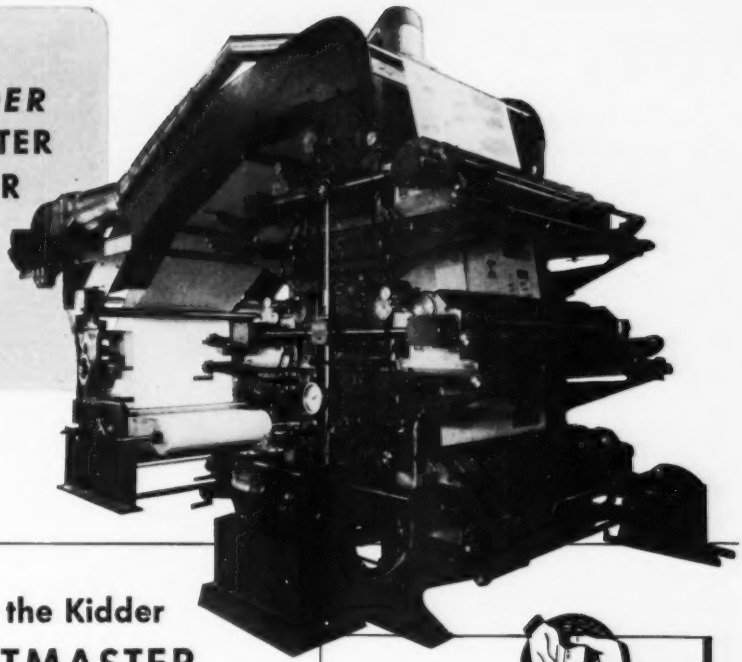
	Per 100 lbs.
White Shirt	$10.00/ $10.50
Unbleached Muslin	10.00/ 10.50
Light Silesias	7.00/ 7.50
White Back Blue Overalls	6.25/ 6.50
Blue Overalls	6.00/ 6.25
Fancy Shirt	4.50/ 5.00
Percales	5.50/ 6.00
Light Prints	5.50/ 6.00
No. 1 Washables	**3.00/ 3.25**
Bleachable Khaki	5.00/ 5.50
Unbleachable Khaki	4.50/ 5.00
Cottonades	4.25/ 4.75
Lt. Flannelettes	7.00/ 7.50
Men's Corduroy	3.50/ 4.00
Women's Corduroy	3.00/ 3.50

(Continued on page 34)

"MEET THE

NEW KIDDER PRINTMASTER ANILINER

... the most advanced press of its type ever developed"



Only the Kidder PRINTMASTER

offers you all these advantages in Aniline Printing:

- Heavier and more precision built press throughout.
- Metered ink fountains which insure a constant ink flow at all speeds and a unique drive which keeps fountain rollers running when the press stops. Hydraulic-cylinder release system which has been greatly simplified.
- An improved drying system which partially dries each color as printed and then completely dries, seals, re-moistens and cools the printed web after all colors have been applied.
- Ink fountains driven independently of plate cylinders by a way shaft and gear box system using only hardened gears, running in oil.
- Bearings are anti-friction type throughout, making for exceptionally easy running, minimum power consumption and long life of moving parts.

CONTROL OVER THE PAPER

PROPER DISTRIBUTION OF INK

ACCURACY OF THE IMPRESSION

KIDDER THREE POINT PRESS

KIDDER

Manufacturer of "3 Point" Presses—so-called because they fulfill the three major requirements for perfect printing.

THE KIDDER PRINTMASTER ANILINER IS AVAILABLE IN 52" and 65" WIDTHS AND IN FOUR OR SIX COLOR FRAMES.

For further information write:

KIDDER PRESS COMPANY, INC.

DOVER, NEW HAMPSHIRE

A. E. MARCONETTI, INC.
11 W. 42nd St., New York 18, N. Y.

MACHINERY SERVICE COMPANY
P. O. Box 33, Los Angeles 11, California

Prices

CONTINUED FROM PAGE 32

Old Domestic Cotton Rags

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
No. 1 Whites, Repacked	**$4.25/**	**$4.75**
No. 1 Whites, Miscellaneous	3.50/	4.00
No. 2 Whites, Repacked	2.75/	3.00
No. 2 Whites, Miscellaneous	**2.00/**	**2.25**
Cotton Pants & Overalls	2.75/	3.00
Thirds and Blues, Repacked	2.25/	2.50
No. 1 Roofing Rags	**1.40/**	**1.50**
No. 2 Roofing Rags	1.25/	1.35
No. 3 Jute Bagging	**.95/**	**1.05**
No. 4 Brussels & hrd. Bek'd crpts.	**.90/**	**1.00**
Roofing Bagging	**.80/**	**.95**

New Foreign Cotton Cuttings

(Prices to Dealer, F.o.b. Dock, N. Y.)

Per 100 lbs.

New Dark Cuttings
New Mixed Cuttings
Light Silesias
Light Flannelettes
New White Cuttings
New Unbleached Cuttings
Fancy Shirt Cuttings
Light Prints
Bleachable Khaki, No. 1
Unbl. Khaki, No. 1

prices are nominal

Old Foreign Rags

(Prices to Dealer, F.o.b. Dock, N. Y.)

Per 100 lbs.

No. 1 White Cottons
No. 2 White Cottons
No. 3 White Cottons
No. 4 White Cottons
Extra Light Prints
Old Light Prints
Med. Light Prints
Dutch Blue Cottons
Checks and Blues
Linsey Garments
Dark Cottons, European
Dark Cottons, Egyptian
Old Shopperies
New Shopperies

prices are nominal

Bagging

(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.	
Foreign Gunny, No. 1	**$7.50/**	**$8.00**
Domestic Gunny, No. 1	7.50/	8.00
Heavy Wool Tares	6.50/	7.00
No. 1 Scrap Bagging	**4.75/**	**5.00**
Foreign Manila Rope	**5.50/**	**5.75**
Domestic Manila Rope	**5.50/**	**5.75**
Jute Strings	**6.25/**	**6.50**
No. 1 Sisal Strings	5.00/	5.25
Mixed Strings	**1.15/**	**1.30**

PHILADELPHIA

Domestic Rags (new)

(F.o.b. Eastern Shipping Point)

	Per 100 lbs.	
White Shirt	$10.25/	$10.50
Light Silesias	6.75/	7.00
Unbleached Muslin	10.00/	10.25
Light Prints	5.25/	5.50
Washable No. 1	3.50/	3.50
Blue Overall	**6.00/**	**6.25**
Percales	**5.50/**	**5.75**
Unbleachable Khaki	4.00/	4.25
Bleachable Khaki	**5.25/**	**5.50**
Men's Corduroy	**4.25/**	**4.50**
Ladies' Corduroy	**4.00/**	**4.25**
Cottonades	**4.25/**	**4.50**
Fancy Shirts	**5.25/**	**5.50**

Domestic Rags (old)

(F.o.b. Eastern Shipping Point)

	Per 100 lbs.	
Mixed White	**$3.75/**	**$4.00**
Thirds and Blues Repacked	2.50/	2.65
Cotton Pants & Overalls	3.00/	3.25
No. 1 Roofing Stock	**1.15/**	**1.25**
No. 2 Roofing Stock	**1.10/**	**1.15**
Roofing Bagging	.85/	.90

Bagging

(F.o.b. Eastern Shipping Point)

	Per 100 lbs.	
Old Manila Rope	$5.50/	—
Foreign Gunny No. 1	**8.00/**	**—**
Domestic Gunny No. 1	**8.00/**	**—**
Sisal Strings No. 1	**3.75/**	**—**
No. 1 Scrap	**5.50/**	**—**
No. 1 Jute Rope	6.00/	6.50

BOSTON

Bagging

(F.o.b. Boston)

	Per 100 lbs.	
Foreign Gunny	7.50	/ 8.00
Domestic Gunny	8.25	/ 850.
Domestic No. 1 Old Rope	6.00	/ 6.25
Foreign No. 1 Old Rope	**6.50**	**/ —**
Mixed Strings	4.00	/ —
Transmission Rope—Domestic	**3.00**	**/ 3.50**
Jute Carpet Threads	—	/ 4.00
Bleachery Burlap	—	/ 9.00
Scrap Burlap—		
Foreign	6.25	/ 6.75
Domestic	—	**/ 7.75**
South America	8.25	/ 8.50
Austr. Wool Pouches	8.25	/ —
New Zealand Wool Pouches	—	**/ 7.80**
New Burlap Cuttings	8.50	/
Heavy Baling Bagging	—	**/ 7.50**
Paper Mill Bagging	—	**/ 6.75**

Domestic Rags (New)

(F.o.b. Boston)

	Per 100 lbs.	
New Light Prints	5.75	/ 6.00
Fancy Percales	6.00	/ 6.25
White No. 1 Shirt	10.25	/10.75
Light Flannelettes	—	**/ 7.00**
Canton Flannels, Bleached	—	**/ 9.00**
Underwear Cutters, Bleached	10.75	/11.00
Underwear Cutters, Unbleached	10.00	/10.25
Blue Overalls	6.25	/ 6.75
Soft Unbleached	10.00	/10.75
Blue Cheviots	6.00	/ 6.50
Fancy Shirt	5.00	/ 5.25
Washable	3.25	/ 3.50
Khaki Cuttings	5.00	/ 5.25
Men's Corduroy	**4.50**	**/ —**
Khaki Canvas	—	/ 5.50
B. V. D. Cuttings	10.00	/10.25

Domestic Rags (Old)

(F.o.b. Boston)

	Per 100 lbs.	
No. 1 Whites, Repacked	$3.50	/$4.00
No. 1 Whites, Miscellaneous	3.00	/ 3.50
Twos and Blues, Repacked		/ 2.00
Cotton Pants & Overalls	2.75	/ 3.00
No. 1 Roofing Stock	—	/ 1.30
No. 2 Roofing Stock	—	/ 1.20
Roofing Bagging	—	/ .90

Markets

Blanc Fixe

Supply ample. Prices firm. Currently quoted at $85.00 in bags, car lots, at works, 6 cents per pound, l.c.l., deld. By-product supply somewhat restricted. Quoted at $77.50 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Steady improvement in supply. Demand and prices steady. Prices range from $4.25 to $4.75 per 100 pound drums, l.c.l., works.

Casein

Domestic price declines further. Demand dull. Current prices on processed acid precipitated casein at 21 to 26 cents per pound for domestic grades and 20½ to 22 cents for imported grades, f.o.b. shipping point.

Caustic Soda

Supplies available for prompt shipment. Prices firm. Solid caustic is reported at $3.05 per cwt. flaked and ground is quoted at $3.45 per cwt., in 400 pound drums, $3.95 per cwt. in 100 pound drums—car lots at works; liquid 50 per cent in tank cars at $2.40 per cwt.; liquid 73 per cent in tank cars at $2.50 per cwt., at works.

China Clay

Demand easier, supply of domestic and imported ample. Prices firm. Domestic filler quoted at $10 to $12.50 per ton, car lots, f.o.b. mines. Coating clay is $15 to $25. Imported clay quotation, short tons, $16 to $35, export warehouse.

Chlorine

Supply condition favorable. Seasonal pickup in demand due. Demand moderately strong. Prices firm. Currently quoted at $2.40 per cwt. in single unit tank cars; at $2.70 to $3.90 per cwt. in multi-tank cars, f.o.b., works.

Rosin

Producers protest loan level in Wash. Hope for increased support buoys market. Demand fair. Gum rosin in drums per 100 pounds net in car lots, f.o.b., Savannah; B, G, H, I, K, $5.60, Savannah; B, $4.25; FF, $5.65.

Rosin Size

Supply good. Demand steady. Seventy percent gum and pale wood grades, tank cars, $4.95 to $5.05 f.o.b. southern shipping point.

Salt Cake

Easing of demand and steady production brings ample supply condition. Prices steady. Domestic quoted at $27.00, f.o.b. shipping point, freight allowed to destination.

Soda Ash

In free supply. Demand easier. Prices firm. Current prices, car lots per 100 pounds; in bulk, $1.15; in paper bags, $1.40; and in barrels, $1.90.

Sodium Bicarbonate

Supply ample. Demand good. Prices firm. Reported at $1.95 per cwt. paper bags, carload lots.

Starch, Corn

Notice of 15c price advance effective May 9 brings spurt in orders of one processor. Demand fair. Supply ample. Pearl grade currently quoted at $4.67 per 100 pounds; powdered starch at $4.78 per 100 pounds; car lots, f.o.b. Chicago.

Starch, Potato

Fair paper mill demand. Maine price firmed by Govt. purchases. Supply in Maine ample. Idaho limited. High grade quoted at $4.75 cwt. f.o.b. Idaho; $4.75/$5.00 f.o.b. Maine; Pearl grade, $4.90 cwt. f.o.b. Maine.

Sulphate of Alumina

Supply good. Demand steady. Prices firm. The commercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.50 per 100 pounds in bags, car lots, at works.

Sulphur

Demand sustained at good level. Supply good. Prices firm. Annual contracts are quoted at $18 per long ton, f.o.b. mines; $19.50, f.o.b. vessels, Gulf ports. Export price f.o.b. Gulf ports is $22.00 per long ton.

Talc

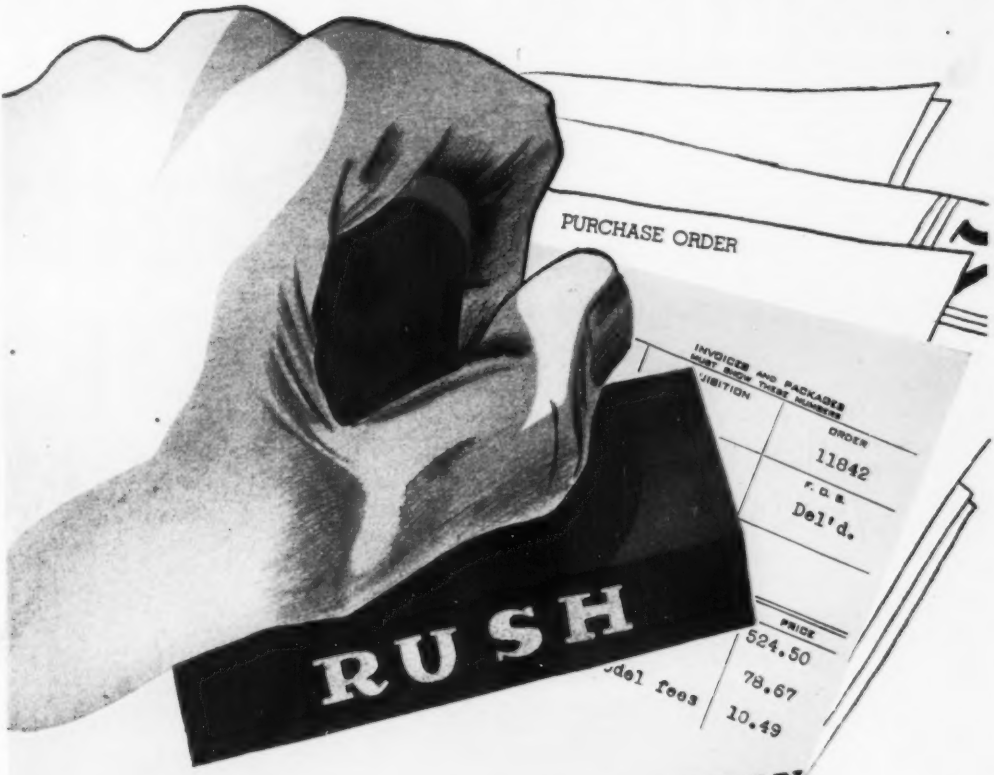
Prices steady. Demand continues ahead of supply. Improvement due this year. Domestic grades are currently quoted at $23 per ton in paper sacks, f.o.b. mills; Canadian at $35 and up per ton. All prices in car lots.

Tapioca Flour

Supplies tighter on all grades. Demand fair. Prices steady. Superior high range from $10.25/$11.50 cwt.; high grades $9.25 cwt., on dock Atlantic and Gulf ports; medium grades range from $6.50/$7.50 cwt. on dock, N. Y.

Titanium Dioxide

Supply reported now in balance with eased demand. Prices firm. Anastase 19½c pound carload lots, 20c l.c.l., rutile, 21½c pound carload lots, 22½c l.c.l.; 50-pound bags, f.o.b. plant, actual freight allowed.



FOR IMMEDIATE ACTION

colored bond

For desirable shades with a minimum of two sidedness

specify

National Aniline Paper Dyes

NATIONAL ANILINE DIVISION • **ALLIED CHEMICAL & DYE CORPORATION**

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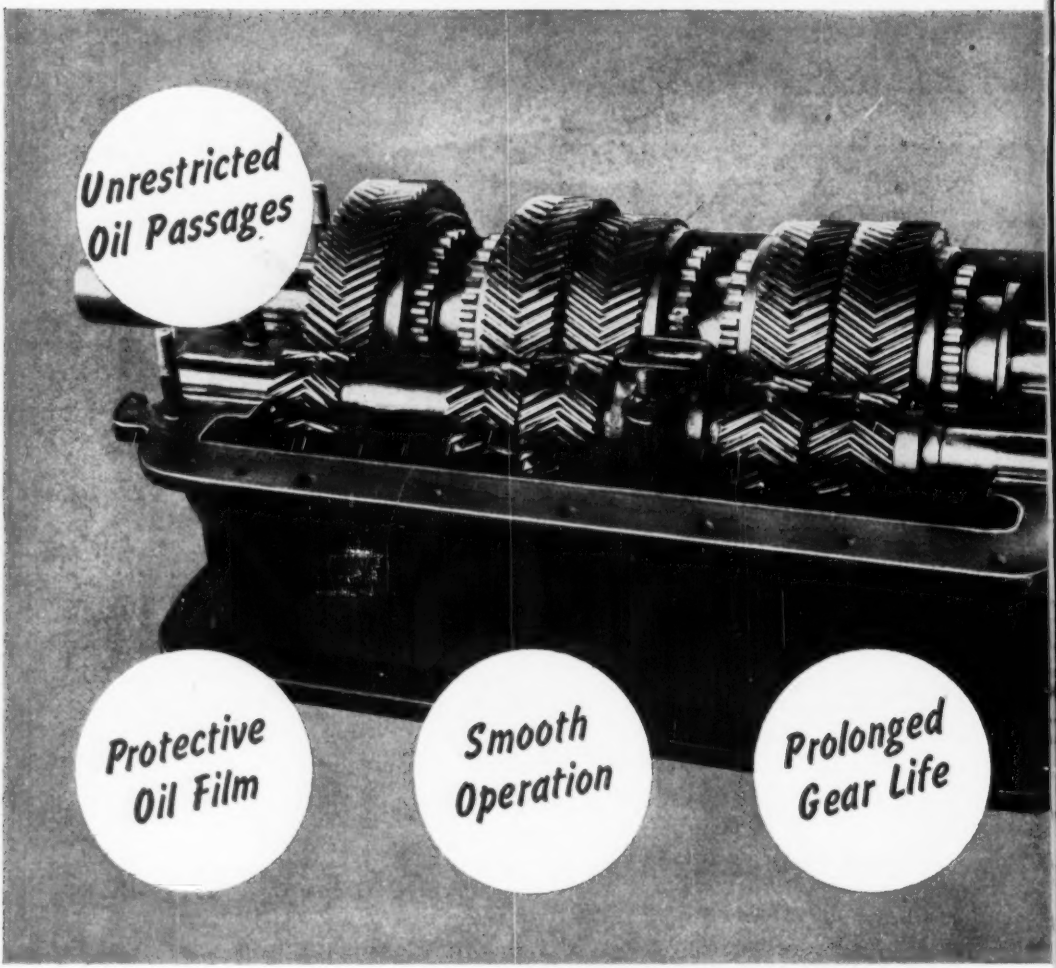
BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND ORE.
GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

SINCLAIR RUBILENE To Promote



SINCLAIR

YOUR NEAREST SINCLAIR AGENT WILL GLADLY ARRANGE

Withstands Punishment Gear Efficiency

Inside a Speed Reducer, the lubricating oil is being churned and temperatures run high. This promotes oil oxidation, and formation of acidic compounds, gum and sludge. The result is lower efficiency, accelerated bearing and gear wear—perhaps even complete failure.

With Sinclair RUBILENE as the lubricant, the danger of insufficient lubrication and excessive wear are no longer a worry. Product of the most modern refining processes, RUBILENE resists oxidation, thereby retarding the formation of damaging acidic compounds, gum and sludge. It is non-foaming, too. So, with a constant flow of protective oil to bearings and gears, RUBILENE stands up under the day-in-and-day-out continuous gear operation . . . without frequent need for draining or replacement. Try Sinclair RUBILENE Oils.

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Financial Record

	Per Share Earnings			
Preferred Stocks	Calendar Year 1947	Calendar Year 1948	Indic. Annual Divid. Rate	April 19 Approx. Market Price
Armstrong Cork Co. $3.75 Cum.	$38.64*	$46.33*	$3.75	95⅜
Armstrong Cork Co. $4.00 Cum. Conv.	38.64*	46.33*	4.00	106¼
Celotex Corp. 5% Cum.	24.25c	21.22g	1.00	17⅜
Champion Paper & Fibre $4.50 Cum.	65.90f	61.80j	4.50	94
Container Corp. of Amer. 4% Cum.	102.74	104.24p	4.00	97
Crown Zellerbach $4.20 Cum.	56.40f	63.54g	4.20	96⅞
Crown Zellerbach $4.00 Cum. Conv. 2nd	53.96f*	60.21g*	4.00	94½
Dixie Cup Co. $2.50 Cum. Conv. Cla	9.16	10.10	2.50	51½
Flintkote Co. $4 Cum.	81.91	83.25	4.00	99⅛
Robert Gair Co., Inc. 6% Cum.	20.11	17.08	1.20	16⅛
International Paper Co. $4 Cum.	236.51	263.00	4.00	96½
Johns-Manville $3.50 Cum.	128.81	209.89	3.50	105⅛
Kimberly Clark Corp. 4½% Cum.	70.03	80.74	4.50	103⅜
Kimberly Clark Corp. 4% Cum. Conv. 2nd	41.60*	41.59*	4.00	96½
MacAndrews & Forbes 6% Cum.	62.20	59.89m	6.00	136¼
Mead Corp. 4¼% Cum.	81.56	73.46	4.25	75½
Mead Corp. 4% Cum. Conv. 2nd	33.30*	29.91*	2.00	32⅛
Paraffine Cos. Inc. 4% Cum. Conv.	152.76a	156.11	4.00	103¾
Rayonier Inc. $2 Cum.	13.58	16.43	2.00	30¾
St. Regis Paper Co. 4.40% 1st A	76.93	68.10p	4.40	84¾
Scott Paper Co. $3.40 Cum.	43.95	59.06	3.40	94
U. S. Gypsum Co. 7% Cum.	211.34	314.45	7.00	182¼
United Wallpaper Inc. 4% Cum. Conv.	(d)1.35a	(d)0.79	2.00	23⅝
West Virginia Pulp & Paper 4½% Cum.	75.75c	81.01g	4.50	105½
Common Stocks				
APW Products Co.	$1.24	$0.73	$0.25	3⅜
American Writing Paper Corp.	1.61	(d)0.15	0.25	5⅝
Armstrong Cork Co.	6.41	7.54	3.00	43¼
Celotex Corp.	6.59c	5.73g	2.00	19⅞
Certain-Teed Prods. Corp.	3.75	4.02	1.15	11⅞
Champion Paper & Fibre	5.57f	6.09j	2.00	21⅝
Congoleum Nairn Co.	4.55	5.78	2.25	28⅝
Container Corp. of America	10.09	9.98p	4.50	34⅞
Crown Zellerbach	6.81f	7.26g	2.00	24⅛
Dixie Cup Co.	5.87	6.70	1.00	28⅜
Eastern Corp.	5.02	4.76	1.00	11⅞
Flintkote Co.	6.27	5.86	2.50	24⅛
Robert Gair Co., Inc.	3.18	2.67	0.70	6⅛
Great Northern Paper Co.	4.56	4.63	2.80	35⅝
International Paper Co.	15.02	16.73	5.00	49½
Johns-Manville Corp.	3.17	5.22	2.00	34⅝
Kimberly-Clark Corp.	4.29	5.02	1.65	20
MacAndrews & Forbes Co.	3.68	3.53m	2.50	32
Marathon Corp.	3.39c	4.08g	1.40	20⅜
Mead Corp.	7.33	6.36	2.00	15⅞
National Container Corp.	4.13	2.28	0.80	7⅛
Paraffine Cos. Inc.	2.40g	2.45	1.20	17⅜
Rayonier, Inc.	7.30	9.09	2.00	23⅛
Ruberoid Co.	9.89	11.80	3.25	45½
St. Regis Paper Co.	2.66	2.27p	0.80	8
Scott Paper Co.	3.02	4.15	2.50	50¾
Sutherland Paper Co.	6.87	6.02	2.50	32⅝
Taggart Corp.	1.29	1.08	0.60	10⅞
Union Bag & Paper Corp.	7.93	8.21p	4.00	26⅛
United Board & Carton	4.95b	0.73h	(e)	5⅝
U. S. Gypsum Co.	10.00	15.04	6.00	99⅝
United Wallpaper	(d)0.11a	(d)0.10	(n)	3⅛
West Virginia Pulp & Paper	11.40c	11.51g	4.00	38⅛

(a) Year ended 6/30/48
(b) Year ended 5/30/48
(c) Year ended 10/31/47
(d) Deficit
(e) Omitted dividend 2/4/49
(f) Year ended 4/30/48
(*) Earnings per combined preferred shares.
(g) 12 months to approximately 1/31/49
(h) 12 months to 2/5/49
(j) 8 months to 12/31/48
(m) 12 months to approximately 9/30/48
(n) Last payment 25c, 9/16/47
(p) 12 months to approximately 3/31/49

Weighs Tax Burden

BELLINGHAM—A recent editorial in the *Bellingham Herald* said in part: "In his annual report, President Fred G. Stevenot cites the Puget Sound Pulp & Timber Co.'s taxes to show what corporate enterprise is doing to maintain the 'seemingly ever-growing cost of government.'

"Exclusive of the three percent state sales tax, the local company in 1948 paid out $3,678,057 in taxes, an increase of $494,607 in one year. The 1948 total included $222,011 for real and personal property, state franchise and state business taxes, an increase of $52,561 over 1927 payments. Taxes designed to benefit employes—unemployment insurance, federal old-age benefits and industrial insurance and medical aid, totaled $119,491, a gain of $25,391. The largest group, federal income and capital gains taxes, totaled $3,336,554 in 1948, an increase of $417,284 in one year.

"In other words, for every $1 of net sales in 1948, 19 cents was set aside for taxes. Every $1 of cost of doing business included 36 cents for taxes. While dividends to stockholders were $2.75 a share, taxes amount to $4.73 a share."

F. C. Huyck & Sons

RENSSELAER, N. Y. — In its annual report to stockholders for 1948, F. C. Huyck & Sons show combined sales for itself and its wholly-owned subsidiary, Kenwood Mills Limited, of $12,439,638 and consolidated net earnings of $933,197, equivalent to $8.50 per share on its common stock after payment of preferred dividends. F. H. Eldridge, president of the company, reported that a large portion of the earnings had been retained in the business to help finance inventories and the plant modernization and construction programs here and at Arnprior, Can. These programs, which were commenced about two years ago and which involve the expenditure of about $2,500,000 at Rensselaer and $500,000 at Arnprior, will provide the two plants with the most modern facilities for the production of papermakers' felts and blankets. The work will be substantially completed by the end of 1949.

Can. Common Stock Trends

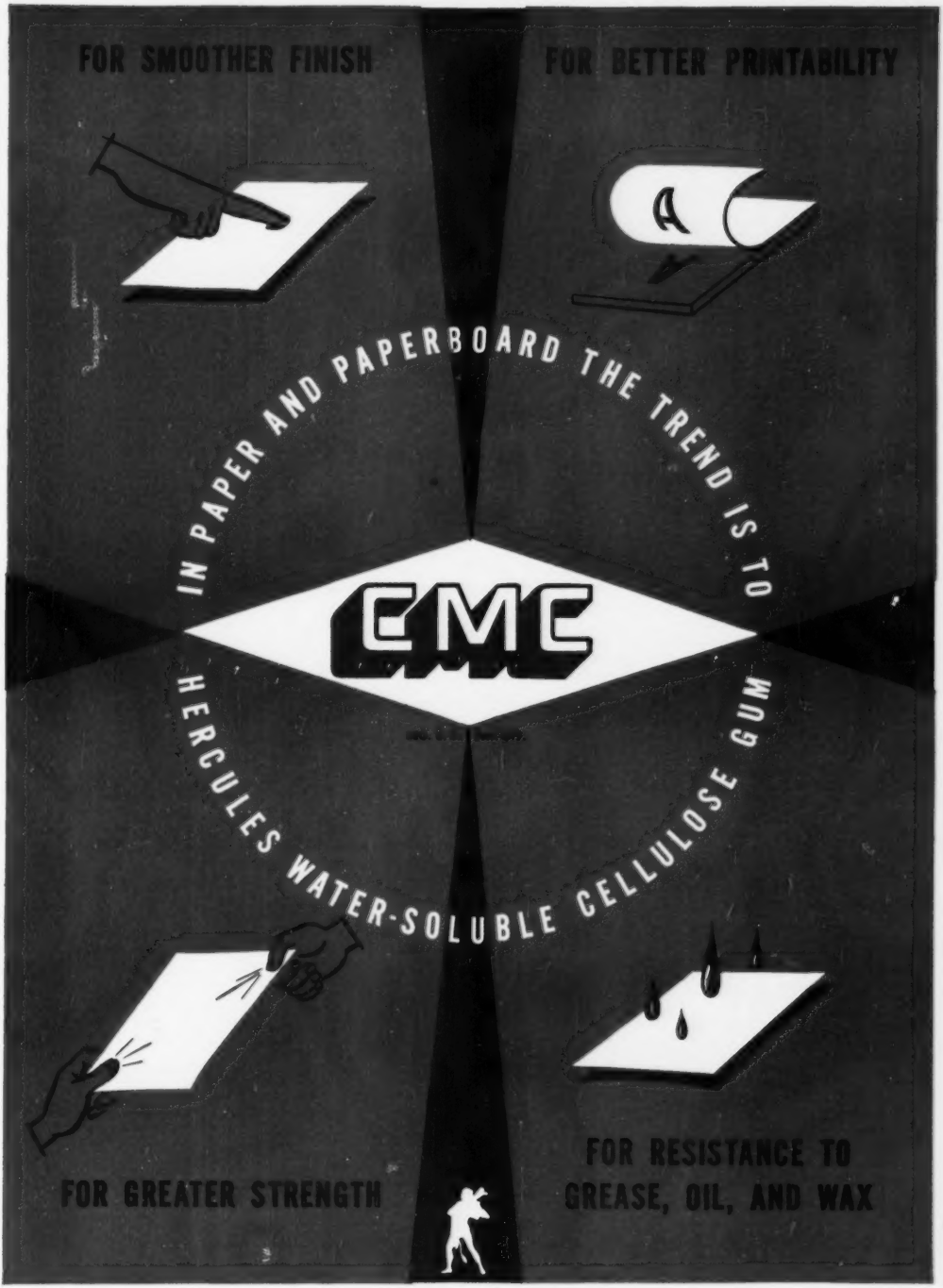
OTTAWA — Pulp and paper common stocks dropped to 244.1 in February, 1949, compared with 257.1 in January for a decline of 13 points, on the base of 1935-39 being equal to 100, the Prices Branch of the Canadian Government reports, adding that the principal price changes in such securities during this period involved increases for Great Lakes Paper Co., Ltd., and decreases for St. Lawrence Corp., Hine & Dauch, and Bathurst Power & Paper Co.

H. & D. Stock Split

SANDUSKY, Ohio—Hinde & Dauch Paper Co., stockholders on April 13 approved a proposal to increase the firm's authorized stock from 750,000 to 1,750,000 shares and split the stock on a two-for-one basis. Holders of record April 22 will participate in the split and distribution of the additional shares is expected about April 29.

Carpenter Stock Retirement

AUSTIN, Texas—The Carpenter Paper Co., Delaware, has amended its Texas permit, retiring 47 shares of its cumulative convertible preferred stock.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PP9-3

Raymond, Wash., Short Logging Expanding

RAYMOND, Wash. — Although virtually non-existent two years ago, when Rayonier Inc., of Hoquiam began working logs in this area, the short-log industry in the immedate vicinity of Raymond has developed into a $1,-500,000 annual business, according to F. A. Veitschegger, Rayonier logging superintendent for this region.

Mr. Veitschegger pointed out that about 75 percent of the short-logging completed in Pacific county has been a salvage operation, or the reclaiming of trees which were too small to be economically logged with heavy woods equipment.

"In most cases," he said, "the short-loggers bring in the smaller trees which have been knocked down by heavy logging operations, and in some cases the small loggers make cuts which could not profitably be worked by the larger timber hauling units."

But at any rate, he added, the short-loggers are bringing out good timber which would otherwise be wasted or left to rot.

Independent short-loggers get $14 a cord for their cuts, and the average crew works about three cords per man per day, when weather permits, Veitschegger said. There are about 15 independent short-log crews working in the Palix river area near Bay Center, and the Trap creek region near Holcomb, and the Rayonier company now has 7 crews working in those areas.

Veitschegger said that about 175 cords of short timber has been going out daily by railroad from here and that about 225 cords are being trucked into Hoquiam daily from logging regions between here and Aberdeen.

Railroad cars are loaded with 18 cords of the eight-foot short cuts, each cord weighing from 4,200 to 5,200 pounds. Although ten cars daily has been the average number of short-log shipments going out during the first three months of this year, 25 carloads went out one day in mid-March just after the lifting of the 20,000 gross load restriction from most state highways in Pacific county and the removal of the six-ton load restriction on more than half of the county roads. In one case, short-loggers working in the Naselle district hauled their cuts into Raymond for unloading at the Northern Pacific railroad crane.

"All loading has previously been done in the Northern Pacific yards here," Mr. Veitschegger said, "but it is hoped to have a loading boom operating at South Bend in the very near future." He explained that the South Bend unloading facilities would enable the company to unload greater number of the short-loggers, and that ample storage space would be available with the new location.

Mr. Veitschegger pointed out that the short-log timber can be cut when the trees are from 30 to 60 years old, and that the efficiency of logging is much more complete than with the larger timber working operations.

"In this respect," he said, "the short-loggers have been taking from 25 to 35 cords of wood from areas which have been previously logged by the large outfits."

He added that the reforestation period for short-loggers will be much shorter than that of the big timber areas, and that it is expected to have a short-log growth turnover every 60 years.

Although the short-loggers bring in some spruce and white fir, the majority of short-logs brought in from this area are hemlock. Shipments from here are being taken into Hoquiam for pulp processing in the Rayonier plant, and a portion of the pulp is shipped from there to other points, the DuPont industries taking a fair quantity for making ammunition and other articles. Veitschegger said that some of the pulp is also used in making rayon materials.

He said much of the pulp is made into a high grade paper at Hoquiam, and that there is very little waste in the process of entering a log at one end of the plant and taking out completely finished paper at the other. Bark and shavings are used for fuel in further operations.

New Bird & Son Felt Mill

SHREVEPORT, La.—Construction of a 50-ton per day felt mill which will serve as an addition to the asphalt roofing plant of Bird & Son, Inc., was begun in February, and the work is scheduled to be completed in about 12 months. The mill will be modern in all respects and contain approximately 35,000 square feet of floor area.

Practically all equipment in the mill will be new except the 169" wide felt machine which will be dismantled and shipped from Wilmington, Del., and re-erected in the Shreveport mill. This machine is of sufficient size to allow for double the production contemplated at present if future expansion should be undertaken. The machine will be driven by a steam turbine and the exhaust steam from the turbine used for drying the felt on the machine.

A new boiler having a capacity of 30,000 lbs. per hour will be installed and it will have sufficient capacity to take care of the needs of existing roofing plant. It will be fired with natural gas and operated at a pressure of from 180 to 200 lbs.

Electrical energy for the new mill will be purchased from the Southwestern Gas & Electric Co. It is expected that the load will be 1,600 K.W.

The skilled and common labor used in the construction of the new mill will be drawn from the local labor market. When in operation the new mill will give employment to about 75 workers.

All work in connection with the design and construction of the mill is being performed by the Rust Engineering Co., Pittsburgh.

Summer Lab. Courses

BROOKLYN, N.Y. — I. Fankuchen, professor of applied physics at Polytechnic Institute of Brooklyn, 99 Livingston street, reports that the sixth annual series of summer laboratory courses at the institute have been scheduled as follows:

June 16-17: Industrial Applications of X-Ray Diffraction; June 27-July 2: Advanced X-Ray Diffraction; June 27-July 1: Molecular Weight Determination of Polymers; and July 25-29: Polymerization.

Prof. Fankuchen says: "The courses represent an interesting experiment in the advanced scientific training of mature scientists who wish to learn specialized technics in a condensed and yet thorough way. Our extensive equipment in both X-Ray and high polymer laboratories is completely at the disposal of the students. In the two polymer courses advanced instruction is given in the up-to-date method of experimentation and evaluation of the results in the general field of fibres, rubber and plastics."

Letters

Dear Mr. Heitzeberg:

Thanks very much for the prompt publication in the *Paper Trade Journal* of the picture and information concerning the recent visit of the Pulp and Paper Technology students at Western Michigan College to the plant of the Allied Paper Co. I feel sure it was appreciated by students and faculty, as well as the mills' executives, and the curriculum's advisory committee made up largely of men from the industry in this area.

We shall be pleased to continue to send you any information in which you might be interested. At all times we shall be happy to serve you in any way possible in the matter of news. Thanking you again, I am,

BLANCHE DRAPER
Publicity Department
Western Michigan College
Kalamazoo, Mich.

Making Big News...

Another New Process Employs 2 B&W Recovery Units...

Chemical recovery and reduction in a new Southern mill will be handled by two 250-ton B&W Recovery Units now on order. Preference for B&W units extends to other new pulping processes recently placed in service or announced. These applications include the first use of chemical and heat recovery in semi-chemical processing of hardwoods for box board manufacture, and the first commercial magnesium-bisulphite pulp mill.

It always pays to see B&W first for the latest advancements in efficient and economical chemical and heat recovery.

NEW YORK

Rayon Pulp Mill To Use Sulphate On Hardwoods

New Plant in South Will Have Capacity of 100,000 Tons Annually.

The first rayon pulp mill designed to employ a new process for producing dissolving woodpulp used in the manufacture of rayon and other synthetic products is scheduled for completion early in 1950.

Hardwoods instead of softwoods, it is said, will be used for the first time in the manufacture of rayon pulps with the new process based on the sulphate (kraft) process instead of the traditional sulphite.

The exact location of the new

Preferred on 8 out of 12 Orders in 1948

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Forest Products Research Society Meeting

Hotel Pantlind, Grand Rapids, Mich., May 2-4

GRAND RAPIDS, Mich. — Tentative program of the 1949 National Annual Meeting of the Forest Products Research Society at Hotel Pantlind here, May 2-4, is as follows:

For details write to Charles E. Van Hagen, secretary-treasurer, Forest Products Research Society, Box 2010, University Station, Madison 3, Wis.

MAY 1

4:00 p.m. Registration Lobby, Hotel Pantlind

MAY 2

TECHNICAL SESSION—I

8:30 a.m. Registration Lobby, Black and Silver Room Civic Auditorium

9:00 a.m. Black and Silver Room

Raw Material and Its Preparation

Chairman: Robert D. Pauley, manager, development department, Weyerhaeuser Timber Co., Longview, Wash. (Northeast Regional Board Member, FPRS)

(1) *More Wood per Acre*, W. D. Hagenstein, forest engineer, West Coast Lumbermans' Assn., and Pacific Northwest Loggers Assn., Portland, Ore.

(2) *Raw Material Supply for Integrated Wood Utilization at Crossett*, S. V. Sihvonen, manager, forestry division, Crossett Lumber Co., Crossett, Ark.

(3) *New Developments in Harvesting Sawlogs*, Fred C. Simmons, logging and primary processing specialist, Northeastern Forest Experiment Station, Upper Darby, Pa.

(4) *Status of Portable Wood Chippers*, Eugene W. Fobes, forester, Forest Products Laboratory, Madison, Wis.

(5) *Wood Fibers From Veneer Waste*, Armin Elmendorf, president, Elmendorf Research, Inc., Chicago.

(6) *Relationship of Small Permanent-type Sawmills to Better Forest Utilization in the Northeast*, Siegfried Tolle, president, Northeast Wood Products, Inc., Pownal, Vt.

(7) *Pulpwood Handling in the Lake States*, O. O. Koski, forest engineer, Minnesota & Ontario Paper Co., International Falls, Minn.

TECHNICAL SESSION—II

1:00 p.m. Black and Silver Room

Furniture and Plywood

Chairman: C. F. Van Epps, materials engineering department, Stromberg-Carlson Co., Rochester, N. Y. (Northeast Regional Board Member FPRS)

(1) *Tropical Woods Research for the Furniture Industry*, Frederick F. Wangaard, associate professor of forest products, Yale University, New Haven, Conn.

(2) *Effects of Plywood Glue Lines on the Accuracy of Moisture-meter Indications*, E. R. Bell, physicist, and Norman T. Krueger, physical science aid, Forest Products Laboratory, Madison, Wis.

(3) *Utility of No. 3 Common Northern Hardwood Lumber for Mechanized Processing into Glued Products*, A. W. Toole and Carl W. Danielson, Jr., Forest Products Research Division, Michigan College of Mining and Technology, Houghton, Mich.

(4) *Cut Stock from Western Softwoods*, H. Z. White, research engineer, Potlach Forests, Inc., Lewiston, Idaho.

(5) *Handling of Assembly Material in Furniture Manufacture*, W. Burdette Wilkins, consulting engineer, Ridgwood, N. J.

(6) *Supplementing Wood with Metal in Furniture Manufacturing*, John H. Gividen, executive vice-president, Dunbar Furniture Mfg. Co., Berne, Ind.

(7) *Problems of the Plywood Industry*, Robert Begge, vice-president, Roddis Lumber & Veneer Co., Marshfield, Wis.

(8) *Evaluating Furniture Finishes*, Joseph A. Hager, vice-president, Grand Rapids Varnish Corp., Grand Rapids.

(9) *Lumber Core Panels*, H. K. von Maltitz, and Matt L. Larson of the Earle Hart Woodworking Machine Co., Chicago.

(10) *Tooling Necessity in the Furniture Industry*, H. C. Lucas, general manager, Gillespie Furniture Co. and P. C. Yankauskas, manager, Pico Machy. Corp., Los Angeles.

(11) *Ills Besetting the Furniture Industry*, Clyne Crawford, president, Crawford Furniture Mfg. Corp., Jamestown, N. Y.

(12) *Research and Creative Business Management*, W. A. Hosmer, professor of business administration, Harvard University, Cambridge, Mass.

6:30 p.m. President's Reception Hotel Pantlind

MAY 3

TECHNICAL SESSION—III

9:00 a.m. Red Room, Mezzanine Floor Civic Auditorium

Chemical Utilization of Wood and Wood Preservation

Chairman: Kenneth G. Chesley, director of research, Crossett Lumber Co., Crossett, Ark. (South-Central Regional Board Member, FPRS)

(1) *Utilization of Redwood Bark*, Harry F. Lewis, research associate, Institute of Paper Chemistry, Appleton, Wis.

(2) *Utilization of Waste Sulfite Liquor in Concrete*, E. W. Scripture, Jr., vice-president in charge of research, Master Builders Co., Cleveland.

(3) *Neutral Sulfite Semichemical Pulping Process*, G. H. Chidester, chief, division of pulp and paper, Forest Products Laboratory, Madison, Wis.

(4) *Dry-formed Boards, Bonded with Resins or Other Materials*, F Bender, Canadian Forest Products Laboratory, Ottawa, Can.

(5) *Notes on Wood, Plywood and Hardboard*, Robert M. Boehm, director of research and John S. Harper, chemical engineer, Masonite Corp., Laurel, Miss.

(6) *Compreg—Resin-treated Densified Wood*, George K. McLean, development engineer, Parkwood Corp., Wakefield, Mass.

(7) *Wood Preservatives*, R. H. Bescher, Koppers Co., Inc., wood preserving division, technical department, Orrville, Ohio.

(8) *How to Recognize and Control Powder Post Beetles in Wood*, Ira Hatfield, consultant, wood preservation, Monsanto Chemical Co., St. Louis.

(9) *Flameproofed Wood—Ignition Temperatures and the Status of Flameproofing*, H. W. Angell, F. W. Gottschalk, and W. A. McFarland, technical department, American Lumber & Treating Co., Chicago.

TECHNICAL SESSION—IV

9:00 a.m. Black and Silver Room

Structural Uses of Wood, Adhesives and Gluing Problems

Chairman: Robert A. Cockrell, associate professor of forestry, University of California, Berkeley, California (Southwest Regional Board Member, FPRS)

(1) *Experiments in Rotary Veneer Cutting*, Herbert O. Fleischer, technologist, Forest Products Laboratory, Madison, Wis.

(2) *Lumber Recovery from Douglas-fir Logs in British Columbia*, C. F. McBride, forest products engineer, Canadian Forest Products Laboratory, Vancouver, B. C.

(3) *Evaluation of Resin Adhesives*, Robert P. Hopkins, plywood group leader, Rohm & Haas Co., resinous products division, Philadelphia.

(4) *Working Stress and Grade Revision of Structural Timber*, Frank J. Hanrahan, chief engineer, National Lumber Mfr's. Assn., Washington, D. C. and R. P. A. Johnson, chief, division of timber mechanics, Forest Products Laboratory, Madison, Wis.

(5) *Short Time Creep Tests of Douglas-fir*, Albert G. H. Dietz, associate professor, department of building engineering and construction, Massachusetts Institute of Technology, Cambridge, Mass.

(6) *Some problems in the Design and Performance of Laminated Wood Trusses*, D. E. Kennedy, Canadian Forest Products Laboratory, Ottawa, Can.

(7) *Laminated Wood*, Verne Ketchum, chief engineer, Timber Structures, Inc., Portland, Ore.

(8) *Glued-laminated Wej-weld Frames*, Axel V. Pederson, president, Economy Farm Structures, Los Angeles.

(9) *Basic Concepts of the Process of Gluing Wood by Radio Frequency Heating*, W. E. Berkey and Paul D. Newhouse, Westinghouse Electric Corp., Chicago.

(10) *Radio Frequency Application Problems Encountered in the Furniture Industry*, Jack B. Cunningham, president, Woodwelding, Inc., Burbank, Calif.

(11) *Wood Waste Disposal and Air Pollution Control*, Edward S. Feldman, administrative assistant, Furniture Manufacturers Ass'n., Inc., and Louis M. Rosnick, chief air pollution engineer, Los Angeles County Air Pollution Control District, Los Angeles.

FIELD TRIPS

1:30 p.m. John Widdicomb Co., Haskelite Mfg. Co., American Seating Co., Grand Rapids Store Equipment Co.

MAY 4

TECHNICAL SESSION—V

9:00 a.m. Black and Silver Room

Industrial Research and Development

Chairman: Carl H. Rishell, director of research, National Lumber Mfr's. Ass'n., Washington, D. C. (Southeast Regional Board Member, FPRS)

(1) *Significance of Research to Industry*, C. D. Dosker, president, Gamble Brothers, Inc., Louisville.

(2) *Technical Development for a Small Company*, Clark C. Heritage, technical director, Weyerhaeuser Timber Co., Longview, Wash.

(3) *Presentation of Wood Award*, Herbert A. Vance, publisher, *Wood Magazine*, Chicago.

(4) *Report of Committee on Coordination of Forest Products Research*, George M.

Hunt, director, Forest Products Laboratory, Madison, Wis.

(5) *Forest Products Research in Michigan*, Hereford Garland, director, forest products research division, Michigan College of Mining and Technology, Houghton, Mich. and collaborators from the University of Michigan and Michigan State College.

ANNUAL BUSINESS MEETING

1:30 p.m. Black and Silver Room
Committee Reports, Announcements, Installation of Officers, etc.

TECHNICAL SESSION—VI

2:30 p.m. Black and Silver Room
Seasoning and Related Problems
Chairman: Fred W. Gottschalk, technical director, American Lumber & Treating Co., Chicago. (Past President)

(1) *Direct Gas-Fired Kilns in the South*, Mark M. Lohrbas, forest products technologist, Southern Forest Experiment Station, New Orleans.

(2) *Quality Control and Seasoning*, Raymond C. Rietz, chief, division of timber physics, Forest Products Laboratory, Madison, Wis.

(3) *Further Observations on Longitudinal Shrinkage of Softwoods*, Robert A. Cockrell, associate professor of forestry, school of forestry, University of California, Berkeley, Calif.

(4) *Collapse—An Important Seasoning Defect of Aspen*, Victor Clauson and F. H. Kaufert, division of forestry, University of Minnesota, St. Paul.

(5) *Control of Stain, Mold and Decay in Green Lumber and other Wood Products*, A. F. Verrall, pathologist, Gulfport, Miss. and T. C. Scheffer, pathologist, Madison, Wis., Division of Forest Pathology, Bureau of Plant Industry.

(6) *Control of Insects in Air Seasoning*, R. Joseph Kowal, entomologist, forest insect investigations, Bureau of Entomology and Plant Quarantine, Gulfport, Miss.

Papers Presented by Title Only

Molded Plywood, Thomas R. Miles, forest products consultant, Portland, Ore.

Chemical Composition of Ponderosa and Sugar Pine Barks, E. F. Kurth, chief, chemical utilization section, prof. of wood chemistry, department of chemistry, James K. Hubbard, graduate student, department of chemistry and Jane D. Humphrey, research associate, Oregon Forest Products Laboratory, Corvallis, Ore.

Prediction of Pulp Mill Pollution, John P. Tully, oceanographer in charge, Pacific oceanographic group, Pacific Biological Station, Nanaimo, B. C.

Energy Requirements for Insert-point Circular Headsaws, Clarence J. Telford, technologist, Forest Products Laboratory, Madison, Wis.

Tests for Veneers, Armin Elmendorf, president, Elmendorf Research, Inc., Chicago.

Basic Stresses for Wood, J. B. Alexander, forest products engineer in charge, division of timber mechanics, Forest Products Laboratories of Canada, Vancouver, B. C.

Durability of Wood Working Glues for Dwellings, Magnus L. Selbe, chemical engineer, Forest Products Laboratory, Madison, Wis.

Ambassador Visits Seattle

SEATTLE — Eric Boheman, Swedish ambassador to the United States, will spend four days in Seattle and other parts of Washington in May. The ambassador told Sen. Warren G. Magnuson (D-Wash.) he plans to arrive in Seattle May 10 on his first trip across the United States. He will confer here with lumber and paper and pulp manufacturers.

TWO NEWLY ELECTED MANDO OFFICERS

Clarence Larson (left), has been elected vice-president in charge of production, and Hadlai Hull (right), secretary of the Minnesota & Ontario Paper Co., Minneapolis. . . Mr. Larson, was formerly general manager of the International Falls Division of Mando. He will be headquartered in International Falls, from where he will supervise production operations in Mando's three mills. . . Mr. Hull joined Mando in 1946 as assistant secretary.

NECKTIES DRAMATIZE BROWN CO. "TIE-IN" PLAN

Maroon silk neckties embellished with blue dachshunds chasing white bones were used by the Brown Co., New York City, at the recent NPTA convention to dramatize the tie-in of dealers with the company's national advertising campaign featuring Nibroc "bone dry" paper towels. . . Five hundred of the ties were distributed after a brief showing of promotional aids the company is providing for its dealers this year. . . "We expected the ties to prove popular", said Frederick C. Stakel, advertising manager, "but they went so fast we could easily have used 500 more." . . In the picture, N. O. Robinson (left) of the Brown Co., and A. Sandberg of the Andrews Paper Co., Boston, look on as William T. LaRose, assistant manager of Brown's towel sales division, explains the tie-in campaign.

U. S. Pulp and Paper Manufacture, Feb. '49

Paper and Board Production during February amounted to 1,602,066 tons, according to the Bureau of the Census, Department of Commerce. This figure was 144,897 tons below that for January and 96,897 tons below the comparable figure for February 1948, and is the lowest recorded since December 1946. In terms of the production base, the over-all industry operated at 83.4 percent, with the paper and board sections operating at 88.6 percent and 81.2 percent respectively. The comparable ratios for January were 84.4 percent; 87.9 percent; and 81.8 percent. Production of building paper and board was at 71.3 percent of the production base for this section of the industry.

Pulpwood Receipts during February were 134,975 cords below those of January. Pulpwood consumption during the month amounted to 1,615,616 cords and month-end stocks at 5,591,026 cords were 12,917 cords below those of January 31.

Receipts of Fibrous Material other than wood pulp during February, at 564,324 tons, were 48,682 tons below those of January. With the exception of straw and miscellaneous fibers receipts were sufficient to meet consumption requirements. The decline in month-end stocks of 39,070 tons is largely accounted for by withdrawals from inventories of these two items.

Wood Pulp Production in February was 134,386 tons below the comparable figure for January and it was the first month that the industry has produced less than a million tons since February 1948. In terms of the production base, this section of the industry operated at 85.4 percent as compared to 89.9 percent in January. A decline in the consumption of wood pulp in paper and board manufacture, comparable to the decreased rate of production, reflected the shut-downs during the month in the integrated mills producing coarse paper and container board from unbleached sulphate pulp.

Wood Pulp Inventories at paper and board mills on February 28, amounted to 552,893 tons. This figure, 20,373 tons below the comparable figure for January, is the lowest recorded since August 1947. A decline in the stocks

(Continued on page 46)

U. S. PAPER AND BOARD: PRODUCTION, BY TYPE, FEB. 1949

(Tons of 2,000 pounds)

Type of paper	1949 February[1]	1949 January[1]	February 1948
ALL TYPES, TOTAL	1,602,066	1,746,963	1,698,963
Paper, total	755,468	813,651	778,874
Newsprint	69,632	77,654	59,164
Groundwood printing and specialty paper, total	65,358	70,021	66,629
Printing	41,864	43,607	43,177
Converting	20,880	23,355	20,298
Other	2,614	3,059	3,154
Book paper, total	172,042	178,687	183,758
Printing	123,164	134,638	142,254
Converting	45,909	41,530	39,747
Other	2,969	2,499	1,757
Fine paper, total	81,765	87,640	97,606
Writing, total	63,113	66,953	76,543
Rag (including index)	10,277	9,836	12,409
Chemical wood pulp	52,836	57,095	64,134
Cover and text	6,238	6,433	6,766
Bristols (except rag index)	5,612	7,484	6,757
Thin	5,401	5,277	5,922
Other	1,401	1,529	1,618
Coarse paper, total	242,010	270,069	243,108
Glassine, greaseproof, and vegetable parchment	10,331	11,003	10,847
Wrapping, total	67,626	73,326	64,048
Unbleached kraft	34,130	37,985	27,838
Other	33,496	35,341	36,210
Bag, total	63,508	70,534	50,540
Unbleached kraft	59,709	66,726	45,846
Other	3,799	3,808	4,694
Shipping sack	38,887	43,925	51,871
Converting, total	61,652	71,281	65,802
Unbleached kraft	33,484	41,163	37,707
Other	28,168	30,118	28,095
Special industrial	23,732	25,380	25,546
Sanitary	74,988	80,514	76,150
Tissue	18,050	18,395	18,088
Absorbent	7,891	7,282	8,825
Paperboard, total	687,382	750,548	709,287
Liners	238,685	260,989	232,848
Corrugating material	94,569	115,238	107,516
Container chip and filler board	20,673	23,690	24,429
Folding boxboard (for use in folding box plants only)	168,299	171,583	169,169
Set-up boxboard (for use in set-up box plants only)	45,451	46,998	48,213
Cardboard	5,790	6,007	6,398
All other paperboard	113,915	126,033	120,714
Wet machine board, total	10,657	10,994	11,905
Shoe board	3,436	3,567	4,265
Binder board	3,670	3,787	3,847
Other	3,551	3,640	3,793
Building materials made from pulp, total	148,559	171,770	198,897
Building paper	[2]79,201	[2]73,422	104,206
Building board	69,358	98,348	94,691

[1] These data are estimated to give 100 percent coverage of the industry. The proportions of estimate are as follows: Fine paper, 3 percent; sanitary, 8 percent; tissue, 7 percent; cardboard, 5 percent; wet machine board, 9 percent; building board, 9 percent; building paper and flexible fiber insulation, 3 percent; and all other grades of paper and paperboard, less than 3 percent. Data for February are preliminary and will be revised in the March report. [2] Includes flexible fiber insulation. * Revised.

Building

- **FOR THE PAPER INDUSTRY**
- We design, build, and equip paper and pulp mills ... steam generating plants ... and facilities for eliminating stream pollution.
- Under one contract and one responsibility, we deliver jobs complete, ready for operation.
- We also furnish engineering reports and surveys. Current cost data available at all offices.

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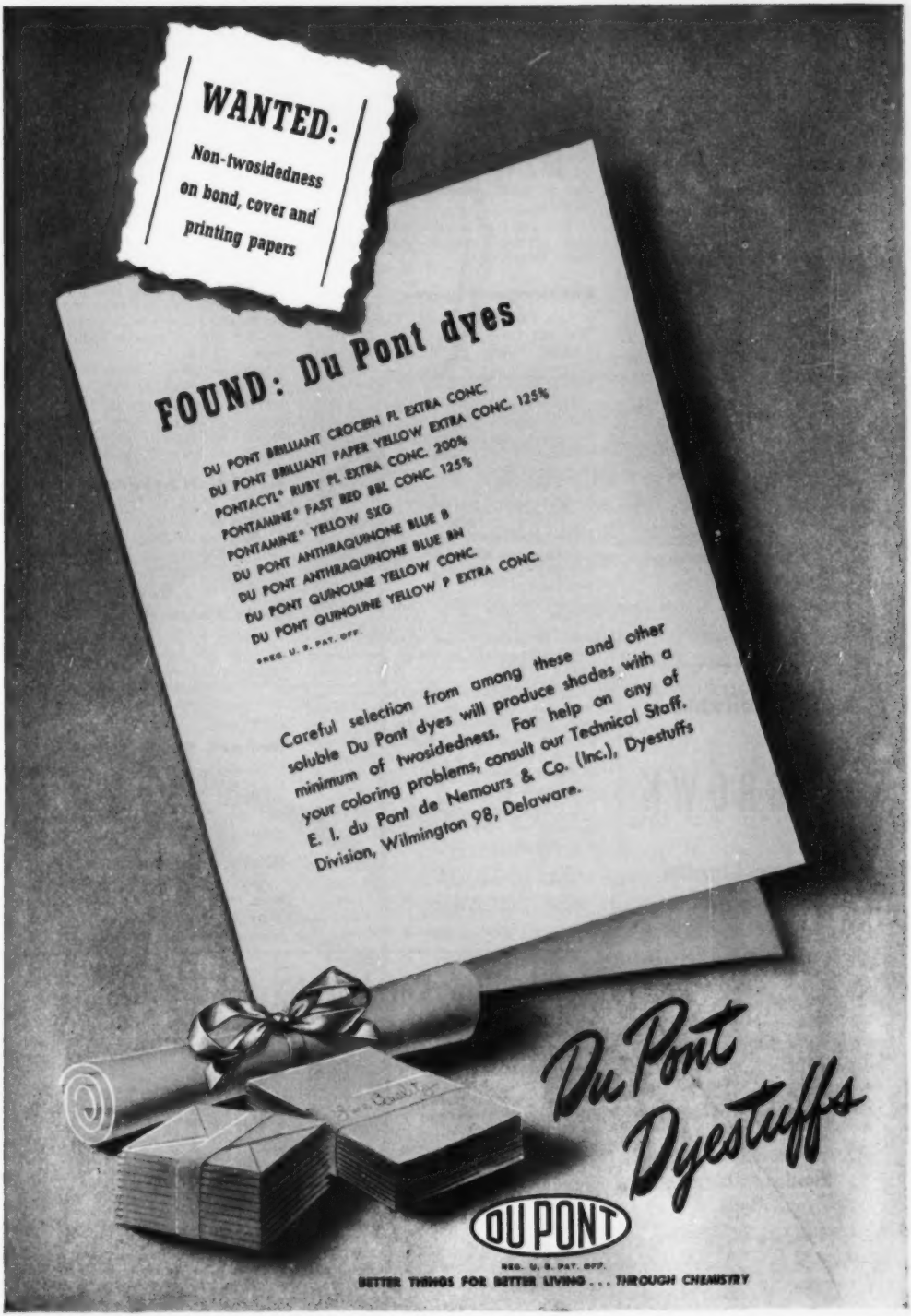
INDUSTRIAL ENGINEERS AND BUILDERS

THE FERGUSON BUILDING • CLEVELAND, OHIO
OFFICES IN NEW YORK, HOUSTON, CHICAGO, CINCINNATI AND LOS ANGELES


WANTED:
Non-twosidedness on bond, cover and printing papers
FOUND: Du Pont dyes
DU PONT BRILLIANT CROCEIN PL EXTRA CONC.
DU PONT BRILLIANT PAPER YELLOW EXTRA CONC. 125%
PONTACYL® RUBY PL EXTRA CONC. 200%
PONTAMINE® FAST RED BBL CONC. 125%
PONTAMINE® YELLOW SXG
DU PONT ANTHRAQUINONE BLUE B
DU PONT ANTHRAQUINONE BLUE BN
DU PONT QUINOLINE YELLOW CONC.
DU PONT QUINOLINE YELLOW P EXTRA CONC.
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Careful selection from among these and other soluble Du Pont dyes will produce shades with a minimum of twosidedness. For help on any of your coloring problems, consult our Technical Staff. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.
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DU PONT
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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

U. S. Pulp and Paper

(Continued from page 44)

of the non-integrated mills of 17,470 tons accounted for most of this decrease. Month-end stocks of wood pulp at the pulp mills showed an increase of 7,329 tons.

Collins Plan Cleared

SPRINGFIELD, MASS. — Hampden County Probate Court approval, clearing the way to possession of the Collins Mfg. Co., papermakers in Wilbraham, by the trustees of the Samuel R. Whiting, Sr., estate, was granted by Judge Thomas H. Stapleton April 13 in an uncontested equity case.

The petitioners were Margaret Whiting Bast of Springfield and James G. Whiting of Holyoke, daughter and son of the late Holyoke paper manufacturer.

Their petition asked for, and they were granted court instructions, as trustees, to: (1) Borrow $200,000 from the Union Trust Co., pledging securities from the estate valued at $300,000 as collateral. (2) Pay the Union Trust Co. $195,000 to apply to its first mortgage on the property. (3) Pay the Union Trust Co. $5,000 for the account of Mallary & Gilbert, as full compensation for legal services in connection with the first mortgage. (4) Enter into any lease or agreement for the best interests of the estate. (5) Obtain from Paul C. Bast, sole stockholder of Collins Manufacturing Co., assignment of all stock to enable the trustees to enter a position in which they may negotiate for the sale or lease of real and personal property covered by the first and second mortgages and other assets. (6) Start foreclosure proceedings in the event Mr. Bast refuses to comply, on the strength of a promissory note given by the Collins concern to the trustees, the payment secured by the second mortgage.

The trustees have arranged to dispose of the assets to unnamed New York interests.

Challenges Figures

SAN FRANCISCO — The United States does not have to worry about a timber famine, Forest Engineer William D. Hagenstein of the West Coast Lumbermen's Ass'n., said here on April 14.

He asserted in an interview that the U.S. Forest Service is only telling "half the story" on the lumber situation in this country, the *San Francisco Examiner* reported. Mr. Hagenstein, addressing a group of private, State and Government foresters, said:

"Tens of millions of acres of forest from a 180,000,000 acre source are reaching saw timber size every decade but are not being calculated by the Government.

"In 1944, the U.S. Forest Service stated there were 95,000,000 acres of pole size timber and 85,500,000 acres of seedlings and saplings growing in the U.S.

"They were not computed as of that time contributing to the current board foot growth even though they were passing from cubic foot size to saw timber, which is 15 inches, according to Government estimates," Mr. Hagenstein said.

He cited these figures on the relationship of timber withdrawals to replacements:

"In 1920, the Capper report showed a ratio of five- and six-tenths board foot withdrawal to one board foot replacement in saw timber. In 1933, the Copeland report estimated the ratio at five feet withdrawal to one replaced. In 1944, a U.S. Forest Service survey showed the ratio as one and fifty-three hundredths feet withdrawn to one replaced."

Can. Exports-Imports

OTTAWA—Exports of woodpulp from Canada dropped to $15,183,000 during January, 1949, compared with 15,260,000 in the corresponding month a year ago, the Canadian Government reports. However, exports of newsprint paper advanced to $29,933,000 in the same month this year as against $27,872,000 a year ago, though such shipments out of this country of other paper declined to $1,937,000 during January compared with $2,569,000 last year, with exports of books and printed matter dropping to $307,000 as against $330,000 a year ago in January.

Imports into Canada of paper advanced to a total of $1,558,000 in January this year as against $1,250,000 last year in the same period but printed matter and books declined to $2,465,000 compared with $2,506,000 last year.

SAPI Golf Schedule

NEW YORK — Western Division SAPIs will hold golf outings at Knollwood on May 20 and at Rolling Green on June 24. Eastern Division SAPIs will golf at Montclair Country Club, Montclair, N. J., on July 20.

Scott Takes Title

HOBOKEN, N. J. — The Scott Paper Co. has purchased the building it formerly occupied under lease here, in which a substantial portion of the total output of Cut-Rite wax paper is produced.

Newark Office Opened

NEWARK, N. J.—The Berlin & Jones Co., Inc., New York, manufacturer of envelopes, has opened a branch office in the Raymond-Commerce building, 11 Commerce street.

Blake Incorporates

TORONTO — Blake Paper, Ltd., has been incorporated as a private company with authorized capital of 50,000 one-dollar par value shares.

Now Available

SAP BROWN

from

American Lignite

Unlimited Quantities
Lowest Prices

Try American Sap Brown for low cost brown paper with or without toning colors. Ask for samples and information.

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Producing Semimechanical Pulp

GREEN BAY, WIS. — For the first time, semi-chemical pulp is available in commercial quantities, George Kress, president of the Green Bay Pulp & Paper Co., reports to *Paper Trade Journal*. This company's new pulp mill started operations late in March.

"Marketed at a price equal to that of ordinary unbleached sulphite, the output of the new plant is approximately 50 tons per day of neutral sulphite pulp," Mr. Kress states. "Heretofore, all manufacturers of semichemical pulp have used their product in their own papermaking operations and it has not been available to other mills in quantities sufficient for full scale operations.

"The principal advantage of the semichemical process is that it utilizes a greater portion of the wood than conventional chemical pulping methods. Made from poplar, this neutral sulphite pulp is a short-fibered, easily refined pulp with good drainage characteristics, and it is suitable for a variety of grades of paper and board. Its availability will permit mills contemplating the manufacture and use of such pulp to determine its suitability in their own particular grades of paper."

Maybe it's the old pump. Possibly it has a sluggish liver. Or perhaps it is hardening of the arteries that is causing a slowing up of production. We're MD's (machinery doctors) you know.

We have been working with paper mill superintendents, engineers, and other executives for so many years on production problems, we know a lot of answers.

So...why not call us in on your paper making problems? Our engineers will gladly sit down and talk over your situation with you...give you the benefit of our more than sixty years' experience and the latest engineering ideas as applied to paper machines and equipment. No obligation, of course.

BAGLEY & SEWALL

WATERTOWN, NEW YORK

BUILDERS OF PAPER MAKING MACHINERY

Augsbury Scholarship

CANTON, N. Y.—Frank A. Augsbury, Sr., president of the George Hall Corp. and former owner of the Algonquin Paper Co. at Ogdensburg, has established a $10,000 scholarship fund at St. Lawrence University. It is to be known as the Frank A. Augsbury, Sr., scholarship. Mr. Augsbury is 84 years old. Years ago he established the DeGrasse Paper Co. at Pyrites. Last June he was given the honorary degree of Doctor of Laws at St. Lawrence University.

N. W. Supt's Meet

APPLETON — The Spring meeting of the Northwestern Division of the American Pulp & Paper Mill Superintendents Ass'n., Inc., according to F. X. Kreiling of the Thilmany Pulp & Paper Co., Kaukauna, Wis., and chairman of the Division, will be held May 13-14 at Hotel Conway. Persons planning to attend the meeting should make room reservations direct with the hotel, Mr. Kreiling states.

Cutback Rumor Groundless

WATERTOWN, N. Y. — The St. Regis Paper Co. has no intention of shutting down operations at West Carthage, Herrings or Watertown, according to William R. Adams, a vice-president of the company. The St. Regis mill at Deferiet, which produces groundwood printing papers, is running full time.

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1949		Corresponding Weeks—1948	
March 5	90.6	March 6	99.9
March 12	91.5	March 13	100.9
March 19	89.7	March 20	101.2
March 26	87.5	March 27	98.2
April 2 (Revised)	87.0	April 3	100.0
April 9	‡87.6	April 10	‡102.4

‡ Capacity in Tons—180,061. * Capacity in Tons—174,668.

COMPARATIVE MONTHLY SUMMARIES

1948						1949	
Jan.	100.1	May	100.5	Oct.	99.1	Jan.	94.6
Feb.	99.8	June	95.7	Nov.	97.1	Feb.	92.8
Mar.	100.8	July	85.3	Dec.	87.1	Mar.	‡89.3
Apr.	100.8	Aug.	96.8				
		Sept.	91.8	Year Avg.	96.2		

‡ Preliminary Ratios.

COMPARATIVE YEARLY SUMMARIES

	1942	1943	1944	1945	1946	1947	1948	1949
Year to Date	103.1	88.7	88.0	88.3	99.4	105.4	100.5	91.9
Year Average	90.4	87.8	88.1	89.4	101.1	104.3	96.2	

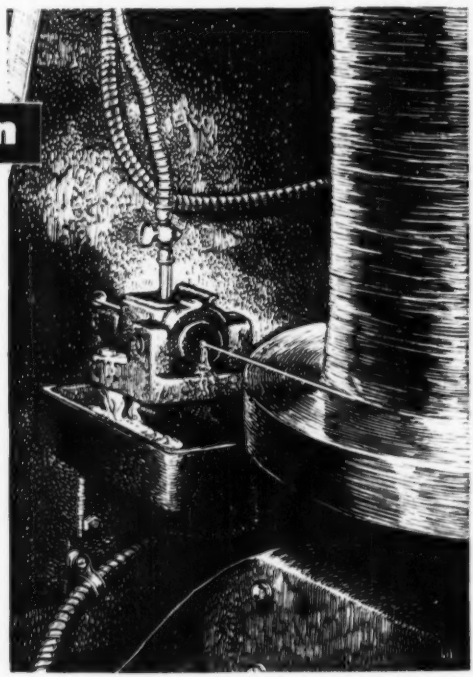
PAPERBOARD OPERATING RATIOS†

Current Weeks—1949		Corresponding Weeks—1948	
March 5	79	March 6	101
March 12	80	March 13	102
March 19	81	March 20	1 4
March 26	80	March 27	101
April 2	75	April 3	98
April 9	77	April 10	103

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1948	99	100	102	102	100	94	81	92	91	96	94	84	95
1949	88	85	79										

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.



integration

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Each step in the specialized production of paper machine wires—including drawing and annealing—is performed by Appleton Wire Works, Inc, . . . another reason why Appleton Wires are Good Wires.

APPLETON WIRE WORKS, INC.
APPLETON, WISCONSIN

In white water treatment...

THE DORRCO CLARIFLOCCULATOR

PREVENTS STEAM POLLUTION *in one operation...*

The Dorrco Clariflocculator is a two-in-one unit providing mechanical flocculation coupled with continuous sedimentation and clarification . . . all in a single compact structure. In operation, solids are continuously withdrawn from a central sludge cone and a clear effluent is overflowed peripherally across a weir extending completely around the tank.

The case history at the right is based on Dorrco Clariflocculator operation at a large Wisconsin Paper Mill. At this mill, alum is added in the paper-making step to hold pH at 4.2 for best paper machine operation. Similarly, activated silica is used in a sufficient amount for best fiber retention on the wire. Consequently, no additional flocculating reagents are necessary, although in other cases they may be required for optimum results.

Regardless of the exact nature of your white water problem, there's a good chance that the ability of the Dorrco Clariflocculator to recover flotable and non-flotable material . . . *simultaneously* . . . may mean money in your pocket. Why not check with a Dorr engineer?

Name:_____*

Equipment: One 30' dia. Dorrco Clariflocculator.
Flow: 300 gpm.
Feed: White water from paper mill. Solids contain 17-74% clay, starch, titania and other coating materials.
Chemicals Used: Paper Makers' Alum and activated silica.

Test No.	Solids—lbs./1,000 gal. Feed	Effl.	Sludge	% Recovery	Sludge % Solids
1	8.38	0.16	35.69	98.5	0.43
2	6.57	0.16	43.82	97.8	0.53
3	3.90	0.16	28.39	96.3	0.34
4	5.40	0.16	25.98	97.6	0.31

Comments: Pulp is sulphite and groundwood. Feed contains dissolved air tending to form scum but the flocculation effectively eliminates this problem and produces an excellent effluent.

*Name on request.

DORR

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Dorr Technical Services and Equipment Are Also Available Through Associated Companies and Representatives in the Principal Cities of the World. Names and Addresses on Request.

Suppliers

Black-Clawson Co., Hamilton, Ohio, with foreign offices at Middleton, Ohio, has formed a new subsidiary in the United Kingdom, B-C International, Ltd., with offices at 16 Catherine place, Victoria, London, S.W. 1. B-C International will be operated as a division of the Black-Clawson Co., with full control and responsibility vested in the American parent organization.

Engineers and technicians from the Black-Clawson, Shartle, and Dilts organizations are being rotated on a liaison basis between the U.S. and the U.K., to augment and give full technical assistance to paper mills in England, and to the export customers to be serviced by B-C International, Ltd.

Officials and executives of the London company are: Homer D. Martindale, chairman; J. D. Haskell, managing director; Air Commodore T. C. Miller, deputy managing director; C. R. Crawford, director; and P. H. Fogg, director and chief engineer.

Frank T. Peterson of the Black-Clawson home office and J. Couture, chief engineer of the Dilts Division, are in the U.K. at present. Mr. Peterson is "roving engineer" who will travel in Europe in cooperation with the B-C International, Ltd., organization in a liaison and consultive capacity. He will be assisted by other engineers soon to be appointed.

PRINTON NOPCO HEAD

Thomas J. Printon has been elected president of the Nopco Chemical Co., Harrison, N. J., succeeding Charles P. Gulick, one of the company's founders and president since 1932. Mr. Gulick continues with Nopco as board chairman. . . Pictured above are: Mr. Printon (left) receiving congratulations from Robert F. McClellan (right) at a surprise luncheon given by Industrial Division Sales Managers at the Military Park Hotel, Newark, N. J., April 5.

Three personnel changes in the technical division of the Du Pont Co., electrochemicals department, Wilmington, Del., reported on April 14 are: Dr. Paul R. Austin, an assistant director of the chemical department laboratory at Du Pont's experimental station here, was appointed director of the electrochemicals department's technical division; Dr. Harold J. Barrett, chemical research manager at the Niagara Falls, N.Y., plant was named manager of field research with headquarters at Wilmington; and Dr. Campbell Robertson, manager of chemical research at the Perth Amboy, N.J., plant, was named chemical research manager at the Niagara Falls plant. The appointments are effective May 1.

D. Jones, Jr., was named purchasing agent of the Diamond Alkali Co., Cleveland, on April 18. In assuming his new post, Mr. Jones returns to Diamond's general headquarters from Houston, Tex., where he has served "on leave" since 1946 as plant purchasing agent during the construction and initial production period of the company's recently completed $14,500,000 electrolytic chlorine-caustic soda plant. P. P. Eppinger succeeds Mr. Jones at Houston and W. C. Logan and W. C. Mahon have been named assistant purchasing agents at Cleveland.

Donald Williams has been promoted from general sales manager to director of sales of the Dow Chemical Co., it was disclosed on April 11 by Leland I. Doan, president. Mr. Williams in his new position succeeds Mr. Doan, who became president on April 6. Donald K. Ballman, former assistant general sales manager, has been named general sales manager, and Dr. L. S. Roehm assistant general sales manager. The shifts in the top executive staff of the company were made as a result of the death of Dr. Willard Dow on March 31, as reported in the April 7 issue of *Paper Trade Journal*.

Jerome Sabel, 12 San Carlos street, New Orleans, has been added to the sales force of E. H. Fairchild. The Fairchild organization is a representative of the Automatic Transportation Co., Chicago. Mr. Sabel's territory will be Louisiana and Mississippi. Formerly owner of the Temple Electric Co., New Orleans, Mr. Sabel has been connected with the materials handling industry for several years.

Minnesota Mining & Mfg. Co., has introduced a Scotch tape having a tensile strength of 180 pounds per inch of width. The new product is designed to replace baling wire or rope for shipping such products as metal conduits and sheets, stoves and other household equipment, plastics and plate glass and wood panels and assemblies.

AMERICAN CYANAMID CO. PAPER CHEMICALS DEP'T. MEETING

The Paper Chemicals Department of the American Cyanamid Co. recently held a three-day session at the company's Stamford Research Laboratories in Stamford, Conn. The group included members of the New York sales office, district managers from the field, Paper Chemicals Laboratory staff and the sales and service representatives from various sections of the country. . . The Stamford Laboratories' personnel presented a summary of the developments over the past year and a preview of new products on which they are working. The meeting was under the direction of J. M. Walsh, department manager, and R. W. Kumler, technical director. C. G. Landes, head of the Paper Chemicals Laboratory at Stamford, supervised the laboratory presentation. . . Pictured above, are, from left to right, seated: Mr. Landes, Mr. Kumler, C. F. Bonnet, E. H. Northey (administrative director, Stamford Laboratories), A. J. Campbell (general manager, Industrial Chemicals Division), Mr. Walsh, J. D. Lowery, W. H. Harding, H. G. McCormack and A. C. Bate. . . The other men in the picture are sales and laboratory personnel directly connected with chemicals for the paper industry.

Wyandotte Chemicals Corp., Wyandotte, Mich., has named W. L. Rippeteau manager of development for the company. Mr. Rippeteau joined Wyandotte Chemicals in 1947 as a contact representative for the new organic and inorganic products being produced by the company.

Allis-Chalmers Mfg. Co., Milwaukee, on April 11 made a price reduction of from seven to 19 percent on multiple v-belt drives. The reductions will apply to all types of the company's multiple v-belts, sheaves and accessories sold under the trade name, "Texrope."

Dr. Hume Appointed

OTTAWA — Dr. George Sherwood Hume, Chief of the Geological Survey of Canada, has been appointed the Director of the Mines, Forests and Scientific Services Branch, Department of Mines and Resources, Canadian Government, one of the highest-paid jobs ever thrown open to nation-wide competition by the Canadian Government. He will head half a dozen of the Government's main bureaus and branches in this Department and direct approximately 2,500 civil servants, most of whom are scientists.

J. H. Berry Resigning

OTTAWA—Trade Minister Howe has announced the resignation of J. H. Berry, head of three important trade posts in the Canadian Government, including Director General of the Import Control Branch, Crown Assets Allocation Committee and War Assets Corp. He left the first mentioned post April 30 and will leave the others on July 30.

Logging Picking Up

OTTAWA — Although weather conditions this winter held up logging and sawmill operations as well as causing hydro-electric power shortages, recent favorable weather has given a boost to many industries, Labor Minister Mitchell stated in commenting on the current employment picture in Canada.

Western logging and sawmill operations were picking up rapidly, Mr. Mitchell declared here, adding that, in the East, winter cutting and hauling has ended and spring drives would start shortly, with woodsmen who would not take part in driving operations returning to farms or moving to cities to take jobs in construction and transportation.

Calkin Leaves Rockwood

BOSTON — Ernest C. Calkin resigned as president-treasurer of the Rockwood Paper Corp. on April 1. Mr. Calkin will continue his own business at 176 Federal street.

LANGSTON MODERNIZING AND ENLARGING

Conspicuously excellent Holoflux lighting designed by the Holophane Corp., is a feature of the enlarged and modernized engineering department of the Samuel M. Langston Co., Camden, N. J. . . The department has been doubled in size and is equipped with a fire-proof vault set in concrete for the safe keeping of original drawings, bills of materials, engineering records, etc. . . The firm has employed Holoflux lighting also in its recently enlarged offices and will soon complete a 7,500 square-foot plant enlargement.

OPEN SOUTHERN CORP.

Matthew B. Barkley (left), of Charleston, S. C., and William McIntosh, Jr., (right) of Savannah, Ga., have opened the Southern Corp., as a dealer and representative for paper mill supplies and specialty equipment, at 21 Broad street, Charleston. Among the lines being handled by the Southern Corp. are those of the Allis-Chalmers Mfg. Co., Multi-Metal Wire Cloth Co., Owen Bucket Co., Tool Steel Gear & Pinion Co., Buckner Process Co., D. O. James Gear Mfg. Co., Michigan Pipe Co., Brown Hutchinson Iron Works, American Manganese Steel Div., and Glover Machine works.

Superintendents' Gimmick Contest

NEW YORK—Ollie W. Messner of the Tarentum Products Corp., national president of the American Pulp & Paper Mill Superintendents Ass'n., Inc., has launched a gimmick contest that is open to any employe of a pulp and paper mill, whether in supervisory, technical or operating capacity. The only limitation on the contest is that each entry must be of a device that has been contrived to simplify or improve an operating or mechanical (such as involved in construction and maintenance work) procedure.

All entries must be submitted to Harry E. Weston, associate secretary-treasurer of the Associates, 38 South Dearborn street, Chicago 3, Ill., not later than June 1, 1949. These entries will be judged by a panel of three experts to be selected by Mr. Messner, at the next annual convention of the Association, June 15-17, at Hotel Haddon Hall, Atlantic City, N.J.

The individual entry may include either an actual exhibit of the gimmick with legend material, giving name of device, if any, and a brief description of its application and method of use; or it may consist of only the descriptive material with such sketches or photographs as are necessary to illustrate its design, application and use.

Three prizes are to be awarded—a first prize of $50, a second prize of $35, and a third prize of $15.

Purpose of the contest is to bring numerous gimmick ideas out into the open so that they can be of the greatest good to the greatest number of persons.

SANTA CLAUS, '49 STYLE

Bernie Weston, former rubber roll salesman with the American Wringer Co., Woonsocket, R. I., who retired in 1947, keeps busy making neighborhood kids happy with carts and sleds which he builds in the woodworking shop in his Syracuse, N. Y. home.

Paper Best Bet

OTTAWA — With the union of Newfoundland and Canada now an established fact as the former has become Canada's 10th province, it is stressed here that the pulp and paper industry in Newfoundland has become for some time now the most important manufacturing industry there, producing many millions of dollars worth of pulp and paper products each year, paying out similarly many millions annually in wages, and giving employment to more than twelve thousand workers. Henceforth, these operations will be known as "Canadian."

In brief, the pulp and paper industry in Newfoundland has raised the standards of living of thousands of workers and two towns, Corner Brook and Grand Falls, are often referred to as "the pulp and paper towns" due to the great progress there attributed to the industry's development in relatively recent years.

The two big companies operating in Newfoundland at present are the Bowater's Newfoundland Pulp & Paper Mills and the Anglo-Newfoundland Development Co., which own most of Newfoundland's tremendous timber resources. Bowater's holdings cover an area of more than 11,230 square miles and those of Anglo-Newfoundland approximately 7,442 square miles so that it is said that such a large quantity of cords of pulpwood exist that there is enough to supply mill needs in perpetuity without the benefit of reforestration. In addition, it is understood that further pulp and paper developments are possible in future from Labrador timber.

INDUSTRIAL PRODUCTION, BY INDUSTRIES

(Without Seasonal Adjustment)

Source: Federal Reserve, March, 1949

[Index numbers of the Board of Governors, 1935-39 average = 100]

	Annual		1948											1949
Industry	1948	1947	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Paper and Paper Products	*164*	*158*	*163*	*165*	*167*	*169*	*170*	*165*	*149*	*165*	*165*	*172*	*169*	*155*	*p160*
Paper and pulp	159	152	157	159	160	163	164	160	145	160	159	167	163	149	p154
Pulp	182	172	174	178	179	182	188	183	170	191	181	194	189	173	...
Groundwood pulp	105	102	91	98	96	107	112	107	104	107	103	109	110	107	...
Soda pulp	108	109	109	110	103	108	112	111	96	110	107	111	107	104	...
Sulphate pulp	299	265	276	269	285	293	309	301	283	328	301	330	317	285	...
Sulphite pulp	149	c149	151	161	153	151	151	146	135	148	145	153	149	137	...
Paper	155	149	155	156	157	160	160	156	141	155	156	163	159	146	151
Paper board	186	179	187	179	192	192	191	187	165	184	189	193	195	167	182
Fine paper[1]	83	86	86	88	85	87	86	86	74	83	83	...	...	...	...
Printing paper	164	159	162	170	161	166	169	168	150	160	161	172	165	160	159
Tissue and absorbent paper	163	149	161	167	161	173	169	160	153	161	163	172	162	153	153
Wrapping paper	148	138	145	150	148	151	150	145	135	153	148	157	150	142	145
Newsprint	92	91	82	83	82	91	95	95	91	95	93	96	95	98	99
Paperboard containers (same as Paperboard)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

p Preliminary. *c* Corrected. [1] This series is in process of revision.

NOTE.—For description and back figures see BULLETIN for October, 1943, pp. 940-984, September, 1941, pp. 878-881 and 933-937, and August, 1940, pp. 753-771 and 825-882.

HOURS AND EARNINGS OF PRODUCTION WORKERS IN MANUFACTURING INDUSTRIES

[Compiled by the Bureau of Labor Statistics]

	Average hours worked per week							Average hourly earnings (dollars per hour)						
	1947		1948					1947		1948				
Industry group	Nov.	Dec.	Aug.	Sept.	Oct.	Nov.	Dec.	Nov.	Dec.	Aug.	Sept.	Oct.	Nov.	Dec.
All manufacturing	*40.4*	*41.2*	*40.1*	*39.8*	*r40.0*	*r39.8*	*40.0*	*1.268*	*1.278*	*1.349*	*1.362*	*r1.366*	*1.371*	*1.376*
Durable goods	*40.7*	*41.7*	*40.7*	*40.0*	*r40.9*	*r40.4*	*40.8*	*1.346*	*1.354*	*1.431*	*1.448*	*r1.452*	*r1.454*	*1.457*
Nondurable goods	*40.1*	*40.8*	*39.5*	*39.6*	*39.1*	*r39.2*	*39.3*	*1.185*	*1.196*	*1.262*	*1.272*	*r1.271*	*1.282*	*1.286*
Paper and allied products	43.2	43.8	43.1	42.7	42.9	42.9	42.5	1.222	1.226	1.320	1.334	r1.328	r1.336	1.330

r Revised.

NOTE.—Preliminary January, 1949 figures for average weekly hours and hourly earnings are: All manufacturing, 39.6 and 1.384; Durable, 40.5 and 1.463; Nondurable, 38.6 and 1.296, respectively. Back figures are available from the Bureau of Labor Statistics.

FACTORY EMPLOYMENT AND PAY ROLLS, BY INDUSTRIES

(Without Seasonal Adjustment)

[Index numbers of the Bureau of Labor Statistics, 1939 = 100]

	Factory employment							Factory pay rolls						
	Annual		1948				1949	Annual		1947	1948			
Industry group or industry	1947	1948[1]	Jan.	Oct.	Nov.	Dec.	Jan.	1947	1948[1]	Dec.	Jan.	Oct.	Nov.	Dec.
Paper and Allied Products	*147.2*	*148.6*	*148.7*	*151.0*	*151.7*	*151.1*	*146.9*	*306.8*	*342.3*	*334.0*	*328.0*	*357.4*	*362.2*	*356.5*
Paper and pulp	144.1	148.9	147	150	150	150	....	306.5	349.2	333	330	359	365	358
Paper goods, n.e.c.	163.5	164.9	166	168	169	168	....	328.4	365.6	362	355	381	393	395
Paper boxes	142.6	138.2	141	144	146	144	....	293.1	314.4	322	309	342	345	335

Canada Forestry Act

OTTAWA—One of the measures proposed in the Forest Conservation Bill now before the Canadian Government and introduced in Parliament as "Canada Forestry Act" by the Minister of Natural Resources, Hon. James A. MacKinnon, concerns the establishment of national forest reserves, with the understanding here being that expenditures will depend to a considerable extent upon the readiness of the various provinces to co-operate in the scheme.

It is believed that part of the arrangements would involve the setting aside by the provinces of large tracts of forest land as a conservation measure and the Canadian Government carrying the costs of maintenance. Behind the whole plan is a growing feeling in some quarters in this country that such conservation should get a national approach.

In presenting the "Canada Forestry Act" in Parliament here, the Minister of Natural Resources, Mr. MacKinnon, presented the following resolution:

"That it is expedient to present a bill to authorize the governor in council to establish as a national forest or as a forest experimental area lands belonging to His Majesty and to exercise control and management thereof and construct works therein; to establish and maintain forest research laboratories; to assist provinces or owners of forests and to enter into agreements respecting the protection and development of forest lands. The Minister of Mines and Resources is authorized to appoint temporary officers and employees for the carrying out of the provisions of the Act. Expenditures incurred are payable out of the consolidated revenue fund."

Mr. MacKinnon moved that Parliament go into committee at the next sitting to consider the resolution aforementioned. The motion was agreed to by Parliament.

Accident Rate Lowered

TORONTO — Only the modern trend toward intensive safety campaigns by pulp and paper companies keeps timber, river and mill men from being in one of the most hazardous occupations for workers in Canada, according to Eugene E. Sparrow, chairman of the Ontario Workmen's Compensation Board.

B. F. Avery, president of the Association, said that last year, with volume of employment and payrolls the highest ever recorded, frequency of accidents in the mills was lower by 16 percent than for 1947, and down nearly 30 percent from the 1946 figure.

Mr. Sparrow presented trophies on behalf of the Ontario Pulp & Paper Makers' Safety Ass'n. to the respective winners of accident prevention contests.

The Howard Smith Paper Mills, Ltd., Cornwall division, was top winner for the fifth consecutive year with a record of .08 days lost per 1,000 man-hours worked; Superior Box Co. Ltd., Waterloo, won among the medium-sized mills with a contest rating of .15 days; the Kimberly-Clark Corp. of Canada, Ltd., Kapuskasing, among the small units, won with a perfect score of no disabling injuries for the second year in succession; and the Heron Bay division of the Ontario Paper Co., Ltd., won among pulpwood logging operations with a frequency of 32.0 disabling injuries per 100,000 man-days worked.

10-UNIT PORT EDWARDS SHOPPING CENTER

Port Edwards, Wis., (1940 population—1196) celebrated St. Patrick's day with the completion of the new ten-unit Port Edwards Shopping Center, which replaces all of the previous business locations in the village. The handsome, modern structure houses a municipal building, medical building, a bank and seven retail mercantile and service establishments. . . . On hand to witness the dedicatory ceremonies were thousands of Port Edwards, Nekoosa and Wisconsin Rapids citizens. . . . Village president, Neil E. Nash, served as master of ceremonies. The Rev. T. E. Mullen, pastor of St. Alexander's Catholic Parish, offered a prayer of invocation; John E. Alexander, president and general manager of the Nekoosa Edwards Paper Co, which planned and built the shopping center in cooperation with the village, spoke briefly, and Victor Sandman, president of the newly formed Shopping Center Ass'n., voiced the pride of the business men in the center and expressed appreciation "of the efforts of Nekoosa Edwards Paper in adding this tremendous improvement to our village."

No '48 L. T. Accidents

GLENS FALLS, N. Y. — Employes of the Marinette Paper Co. at South Glens Falls went through the calendar year 1948 without a lost time accident and the commendable safety record was recognized at a banquet here at the Queensbury on April 2.

In recognition of the safety record, President R. C. Mateer presented a trophy to Howard Gillman, electrician at the South Glens Falls plant. Mr. Gillman is also chairman of the employes safety committee.

George Clossay, assistant personnel manager and safety supervisor, acted as toastmaster and introduced John B. Hay, general manager of the South Glens Falls and Fort Edward plants. He disclosed that a trophy had also been awarded to the shipping department for shipping more cases with fewer damage in those cases.

Andrew J. Schroeder II, director of personnel, presented Mrs. Dorothy Congdon, plant nurse at South Glens Falls, with a certificate for the 1948 perfect record, and Michael Williams, former assistant to the manager at South Glens Falls, and now of the purchasing department, received a trophy for the lowest accident frequency of all Scott Paper Company plants.

AATCC Meeting

NEW YORK—The next meeting of the New York Section of the American Ass'n. of Textile Chemists and Colorists will be held at 8:00 p.m., May 6, at Kohler's Swiss Chalet, Rochelle Park, N. J.

"Relative Difference Between European and American Textile Chemists' Scientific Approach" will be discussed by Dr. Marcus Kleber.

In addition, P. J. Kennedy will direct a question-and-answer period to a selected panel of four experts in the textile dyeing, printing and finishing industry.

At the annual business meeting of the Section reports will be given by officers and committee chairmen. Election of section officers for the 1949-1950 season will take place.

Dinner will be served at 6:45, Norman A. Johnson, secretary, 1 Madison avenue, New York City, reports.

Obituary

Harry Mix Hooker, 76, former president of the Hooker Electrochemical Co., Niagara Falls, N.Y., died on April 9. Mr. Hooker was president of the company from 1938 to 1945 and then was chairman of the board until he retired in February. He had also been a director of the Power City Trust Co. and was associated with the National Association of Manufacturers, National Industrial Conference Board, the Chlorine Institute, the Compressed Gas Mfr's. Ass'n., and the U.S. Alkali Export Ass'n. He had been connected with the Hooker company for 36 years, becoming its second president after the death of his brother, Elon H. Hooker, in 1938.

Arthur Joseph Wilson, 63, traffic manager of the Ontario Paper Co., Ltd., Thorold, Ont., was stricken with a heart attack and died suddenly in his room at Hotel Biltmore, New York City, on April 13, while on a business trip. Surviving him are his widow and two sons.

Jacob Fisher, 72, former owner of the Jacob Fisher & Son Paper Mill Supply Co., Springfield, Mass., died at his home on April 12, following a brief illness. Surviving him are his widow, Mrs. Eva Kulvin Fisher; two daughters, Mrs. Nathan Nirenstein and Mrs. Abbott Brunell; and two sons, Harry (president of the concern), and Milton.

John David Boyington, 64, formerly connected with the Florida Pulp & Paper Co., died at his home in Pensacola, Fla., on April 1. Surviving him are his widow, Mrs. Ida Mae Boyington; two daughters, Mrs. Gladys Allen and Mrs. Eugene Forsyth; two sons, Angus and Eddie; and a sister, Mrs. Virgie Jones.

Bertram W. Harwood of Wethersfield, Conn., manager and director of John W. Carter & Co., Hartford, Conn., died at Hartford Hospital on April 5. Surviving him are his widow, Mrs. Lillian R. Anderson Harwood; a son, Bertram, Jr.; and two brothers, George E. and William W. Harwood.

Frederick J. Babcock, 77, former superintendent of the Dexter Sulphite Pulp & Paper Co., Dexter, N.Y., died at his home in that city on April 14. Mr. Babcock retired as superintendent of the company 19 years ago. A daughter, Miss Marcia Babcock, and a sister, Mrs. Mary E. Hicks, survive him.

Grafton Houston, 53, vice-president of the Gilman Paper Co., New York City, died at his home in the Barclay Hotel on April 10. He is survived by his widow, Mrs. Jewel Houston; a daughter, Miss Betty Green Houston; and a son, Grafton, Jr.

Chester E. Howell, Sr., 81, president of F. M. Howell & Co., Elmira, N.Y., manufacturer of boxes and advertising labels, died at his home in that city on April 9. He joined the Howell company as a salesman in 1889.

Elwan Miller, 48, an engineer with the U.S. Gypsum Co., for more than 20 years, died at his home in Newtonville, Mass., on April 9. Surviving him are his widow and a daughter, Miss Nathalie Miller.

Robert F. Paviour, 62, manager of the envelope department of the Alling & Cory Co., Inc., Buffalo, N.Y., for 38 years, died in General Hospital in that city on April 13. He had been ill three days.

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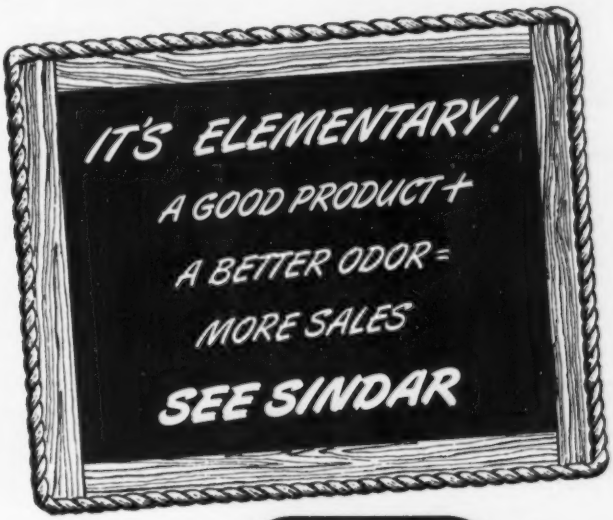

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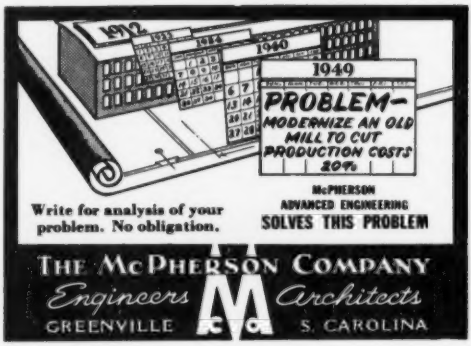

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MECHANICAL ENGINEER—With extensive background in Kraft pulp and paper mills as engineer, superintendent and manager, manufacturing highest grades of pulp and papers, invites correspondence. Best of credentials from present and former associates in regards to integrity and ability. Address Box 49-192 care Paper Trade Journal. M-5

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FOR SALE—62" Beloit Combination 4 Ply Board Paster and 2 Ply Paper Lining Machine. Now running. Address Box 49-180 care Paper Trade Journal. TF

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New 44" National Automatic Clamp Power Cutters, with A.C. motors — carried in stock, ready immediate shipment.

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Also rebuilt Shearers, Slitters, and Rewinders.

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FOR SALE

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4—"ROSS" Size 1024—Type BCP—Single Pass—51 Sq. Ft. Heat Transfer Surface. Price:—$100.00 each

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1—102" Cameron Type 18—60" diameter rewind capacity.

BARKERS
1—5' Carthage Disc Barker

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1—600 lb. Beater—iron tub.

BRASS FELT ROLLS
9—4" diameter x 140" face (with bearings)

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1—100" x 14".
3—114" x 14".
1—120" x 14"

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1—72" 5 roll Calendar Stack.

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1—18" x 18" Jeffrey Single Roll Crusher

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1—36" diameter x 80" face.
1—30" diameter x 72" face.
1—36" diameter x 79" face.

DECKER
1—Decker—48" diameter x 84" cylinder mold

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2—#4 Reeves Drives.
1—#2 Reeves Drive.
1—Smith & Winchester mortise gear Drive.
1—Foote—7½ h.p. Speed Reducer (Ratio 240 to 1)
2—Smith & Winchester Mortise Gear Drives with 20" diameter clutches—Ratio 8 to 1.

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1—General Machine Company 16 : 1.
1—Philadelphia 50:1 — 1 h.p. — 1200 r.p.m.
1—Philadelphia 21½:1 — 3 h.p. — 1200 r.p.m.

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1—81½" diameter x 7½" face, 5 groove
1—16½" diameter x 7½" face, 5 groove (With clutch).

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9—36" diameter x 76" face.
1—48" diameter x 91" face.
1—48" diameter x 94" face.
3—25" x 120" (Baby Dryers)
2—36" x 143".
1—24" x 130".

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2—12 Plate Murray Dunbar Flat Screens.
1—8 plate Packer Type Flat Screen.
1—6 plate Shartle Flat Screen
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1—Watson-Stillman Co. (Platen 24" x 24").

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1—Noble & Wood, Pony Monarch, Belt Driven.
2—Noble and Wood—Mammoth Type
1—Emerson Jordan—25 to 30 tons capacity —iron plug including new spare iron plug.

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1—Caustic Mixer.

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2—5 h.p. ball bearing—splash proof motors —3/60/440. 1160 r.p.m.
1—½ h.p. ball bearing—splash proof gearhead motor—3/60/440. 1725 r.p.m.
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Various sizes.

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Various cone and assorted pulleys.

PULP STACKER
1—Link Belt Company Pulp Stacker, 30 ft. conveyor, 2½ ft. wide, self propelled, with motors.

PULPER
1—Jones Pulper. Complete with motor and drive.

PUMPS
2—Weil Pump Co.—100 g.p.m.—100 P.S.I. including 15 h.p. motors (new equipment).
1—Bell & Gossett—300 g.p.m.—120' head—including 15 h.p. motor.
1—Goulds Sump Pump—50 g.p.m.—20' head —including motor.
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.

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1—72" Beloit Reel.

ROLLS
500—Brass tube-steel tube—rubber covered iron rolls—various sizes.

SAVEALL
1—Pusey & Jones Saveall. Cylinder mold 42 x 146, anti friction bearings, including rubber covered couch roll.

SCREEN PLATES
30 Plates cut .016.
10 Plates cut .008.
Also other sizes and cuts in stock.

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1—136" Moore & White Sheeter, duplex, with layboy.

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1—102" Cameron—Type 18.
1—72" Cameron—Type 28-8-7-D (shear cut).
1—62" Cameron—Type 10-10-AJ.
1—50" Cameron—Type 24-2L.
1—42" Cameron—Type 40-4-B.
1—42" Cameron—Type 28-8-7 (shear cut).
1—42" Cameron—Type 24-2A.
1—42" Cameron—Type 8-5.
1—42" Cameron Constant Tension, with pneumatic control.
1—30" Langston.

SQUEEZE ROLLS
2—Rubber Squeeze Rolls, 20¾" diameter x 102" face.

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1—10 x 20 Shartle Duplex.
4—7 x 16 Shartle Duplex.
Numerous other Centrifugal Stock Pumps. Advise as to your requirements.

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1—Sandusky 14⅞" diameter x 103" drilled face.

SUCTION PRESS ROLL SHELL (Only)
1—29¾" diameter x 134" drilled face.

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1—56" Smith & Winchester—Undercut.

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1—150 h.p. Westinghouse Type C-Gear Turbine (Recently rebuilt).

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1—#4 Nash Hytor Vacuum Pump.

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1—Iron end Vat only, for decker or saveall, suitable for cylinder mold 36 x 130.

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1—8' diameter x 175" face

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1—138" Horne duplex with duplex layboy
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1— 94" Clark single with layboy
1— 94" Clark single with layboy
1— 78" Clark
2— 48" Hamblet

DRYERS

1—12 ft. x 188" Yankee	4—48 x 118"
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5— 8 ft x 174"	10—36 x 65"

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1—Wire 88" x 110" anti friction with 18" suction couch and three sets presses, rolls 29 x 100".
1—100" Fourdrinier Part with 30" suction couch, 29" diameter breast roll, 8" diameter table rolls.

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1—No. 5 Miami, anti friction
1—No. 2 Dillon
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1—36 x 125"
1—60 x 84"
1—48 x 84"
1—46 x 84"

PAPER MACHINE
1—100" trim combination machine
1—84" trim facial tissue and M G machine with 8" dia. Beloit dryer
1—84" Fourdrinier paper machine

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2—12 x 12 Gould triplex
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1— 7 x 10 Gould triplex

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2—No. 3 Bird
Flat screens, 3 to 16 plate
Leith Walk and Moore & White rotary

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1—234" Rice Barton
1—150" Moore & White four drum
1—150" Warren two drum
1—138" and one 129" Pusey & Jones two drum
1—112" Kidder
1— 62" Langston
1— 56" Cameron
1— 52" 44 W Cameron

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1—58 x 189" Couch
1—62 x 189" Press
1—25 x 166" Couch
1—18 x 149" Couch
1—18 x 92" Couch

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1—Baker electric truck, model B T 6
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1—Automatic tractor and piler

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24—Brass Table Rolls, 7" diameter x 196" face, equipped with Timken Roller Bearings #375-372.

Address Box 49-206 care Paper Trade Journal. A-21

FOR SALE

44" & 65" Paper Power Cutters, like new; Casters; Waxers; Sheeters; Die Cutters; Printers; Slitters & Rewinders. Write for Price Bulletin #155 listing over 70 Paper Converting Machines. Priced exceptionally low.

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FOR SALE: N. J. Mounting Machines Models 57 & 58. 44" & 65" Paper Power Cutters; Fuchs & Lang 40" Coater; Beck Sheeters 30" & 55"; No. 3 Miehle 33x46; 22x39 & 70x78 Sheridan Die Cutters; 30" & 40" Slitters & Rewinders; 14x22, 20x30, 26x38 Thomson Die Cutters; No. 10 Babcock Die Cutters 55". Also complete Mounting & Finishing Division with machines like new. Write for listing and prices on these and other Paper Box and Paper Converting Machines. Selling out on pre-moving sale. Address Box 49-121 care Paper Trade Journal. A-28

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FOR SALE—One Breaker Beater—manufactured by E. D. Jones & Sons Company—new 1940. Roll size 66" diameter 61" face—perforated backfall. Available immediate delivery. Price upon inquiry to Robertson Paper Box Co., Montville, Connecticut. A-28

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WANTED

55" Beck Sheeter, equipped with Electric eye and differential cutoff and stacking Layboy. Address reply to Box No. 49-200 care Paper Trade Journal. A-21

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1—6 plate Screen
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1—36" x 72" Cylinder Mould
1—30" x 48" Cylinder Mould
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Give make, condition and location for inspection, as well as best price.
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COMPLETE CYLINDER MACHINE TO TRIM APPROXIMATELY 90 INCHES BOARD.

Principals only.
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WANTED—W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic presses, Sheridan Presses, Dryers. Address Box 48-223 care Paper Trade Journal. TF

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WANTED—One or more automatic stitchers for shopping bags, new or used. Address Box 49-417 care Paper Trade Journal. TF

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J-9

GOVERNMENT BIDS

Treasury Department, Office of the Secretary, Washington, April 13, 1949. Sealed bids will be received by the Secretary of the Treasury until 10 o'clock a.m., Eastern Standard Time, May 13, 1949, from manufacturers of bond, banknote and other fine papers, for furnishing distinctive paper required for the printing of United States currency and public debt securities, Federal Reserve notes, etc., during the fiscal year 1950, beginning July 1, 1949, and ending June 30, 1950. Specifications and full information will be furnished paper manufacturers upon application to the Commissioner of the Public Debt, Room 1334, Treasury Building, Washington 25, D. C. John W. Snyder, Secretary of the Treasury. A-21

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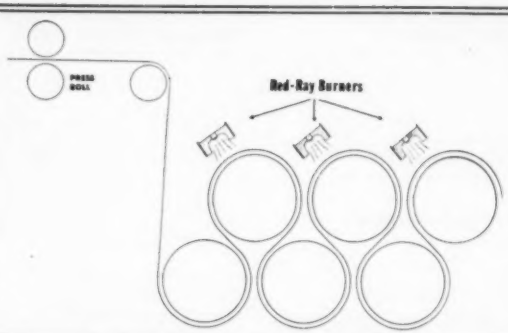

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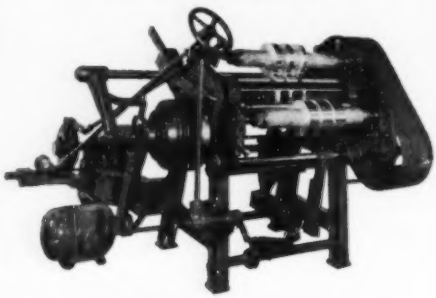

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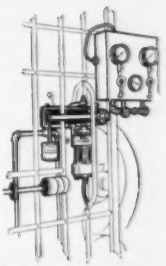
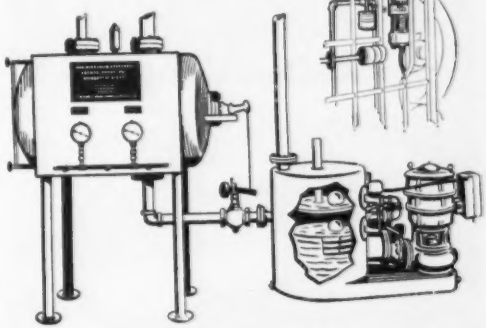
Stickle Automatic Tension and Thermal Control holds moisture content of sheet within a fractional per cent. variation. Reduces cockling, curling, and shrinkage and prevents dryer snap-offs.

Automatic Differential Valve: Free circulation and complete drainage at all pressures. Micro Adjustable Orifices: Visible check on individual dryers. Stickle Vacuum Differential Drainage: Provides drying range from 15" of vacuum to 12 lbs. steam pressure.





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2215 Valley Avenue • INDIANAPOLIS 18, INDIANA

Successfully Serving Paper and Paper Board Mills for More than 40 Years

STICKLE EQUIPMENT

• Supplies Rapid Circulation of Steam through Dryers • Provides Rapid Removal of Condensate and Gases • Increases Production • Eliminates Steam Waste • Reduces Drying Pressure to Minimum • Improves Quality of Product • Gives Visible Operation of Dryers • Provides Sensitive Automatic Control • Assures Accurate Modulated Temperature • Holds Moisture to Predetermined Content.

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THE ORIGINAL STANDARD ROSIN

USERS PREFER GUM ROSIN because it is a pure, natural product made from the gum of the *living pine tree*.

GUM ROSIN is the *original, standard* rosin. Available in bags, drums or tank cars—in a variety of color grades. Uniformity to meet requirements. Consult your local supplier for prices and specifications, or write

AMERICAN TURPENTINE FARMERS ASSOCIATION

General Offices: VALDOSTA, GEORGIA

IF YOU SHIP PAPER IN ROLLS

Murco

ROLL HEADING MACHINE

CUTS FINISHING ROOM COSTS-PRODUCES NEATER ROLLS-IMPROVES APPEARANCE OF ROLLS

Here's equipment that will solve your heading problems—if you ship paper in rolls. It is a simple versatile machine that will turn out uniform perfectly headed rolls—at a fraction of the cost of hand heading—and without tipping rolls on end.

If you want your paper to create a better impression at first sight, investigate this machine today. We will submit a proposal to best meet your requirements.

This machine may be used as:

1. A plain heading machine only . . . with steam or electrically heated platens.
2. A heading machine mounted directly on scale as a unit.
3. A plain heading machine mounted on a scale—all on a transfer car, to service more than one paper machine . . .
5. Any conceivable combination of units, to meet almost any range of diameters and lengths.

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Walworth Company

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Bird Machine Co.
Ross, J. O., Engrg. Co.
Shartle Brothers Machine Co.

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Chain Belt Company
Link Belt Company

Chemical Cotton Pulp
Hercules Powder Co.

Chemicals
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Alhydro, Inc.
American Anode, Incorporated
American Cyanamid Co., Industrial Chem. Div.
Ansul Chemical Co.
Laco Chemical Co.
Calgon, Inc.
Cowles Chemical Company
Diamond Alkali Co.
Dow Chemical Company
E. I. du Pont de Nemours & Co., Inc.
General Dyestuffs Corp.
Geigy Co., Inc.
Gottesman & Co.
Hercules Powder Co.
Hooker Electrochemical Co.
The Kinsley Chemical Company
Monsanto Chemical Company
National Aluminate Corp.
Niagara Alkali Company
Nopco Chemical Co.
Pennsylvania Salt Mfg. Co.
Philadelphia Quartz Co.
Pittsburgh Plate Glass Co., Columbia Chemical Division
Rohm & Haas Co.
Solvay Sales Corp.
Virginia Smelting Co.
Wilco Chemical Co.
Wyandotte Chemical Corp.

Chests
Kalamazoo Tank & Silo Co.

Cleaning Materials
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Amer. Cyanamid & Chem. Corp.
Cowles Chemical Company
The Dow Chemical Company
E. I. du Pont de Nemours & Co., Inc.
General Dyestuff Corp.
Hercules Powder Co.
Monsanto Chemical Company
Nopco Chemical Co.
Philadelphia Quartz Co.
Pittsburgh Plate Glass Co.
Solvay Sales Corp.
Wyandotte Chemicals Corp., J. B. Ford Division

Clutches
Appleton Machine Co.
Black-Clawson Company
Farrel-Birmingham Co.
Hardinge Company, Inc.
Hudson Sharp Machine Co.
Rodney Hunt Machine Co.
Link Belt Company
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works

Coating Machinery
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Hudson Sharp Machine Co.
The Mayer Machine Co., Inc.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corporation, John
Weber, Herman G., & Co., Inc.

Coating Materials
American Anode Div., The B. F. Goodrich Chem. Co.
E. I. Du Pont De Nemours & Co., Inc., Pigments Dept.
The Goodyear Tire & Rubber Company
Monsanto Chemical Company
Nopco Chemical Co.

Cogs
The N. P. Bowsher Co.

Compounded Latices
American Anode Div., The B. F. Goodrich Chem. Co.

Where

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Ingersoll-Rand Co.
Nash Engineering Co.

Consistency Regulators
Askania Regulator Company
Bird Machine Company
DeZurik Shower Company
Paper & Industrial Appliances

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Ebasco Services
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Ferguson, Hardy S.
C. M. Guest & Sons
Hardy, George F.
Alvin H. Johnson & Co., Inc.
Main, Inc., Chas. T.
The MacPherson Company
Roderick O'Donoghue
The Rust Engrg. Co.
J. E. Sirrine & Co.
John Waldron Corp.
H. G. Weber & Co., Inc.
Frederick Wierk

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Black-Clawson Co.
The Bristol Co.
The Brown Instrument Co.
Cochrane Corp.

Controls
Askania Regulator Company
The Bristol Company
The Brown Instrument Co.
Cochrane Corp.
Johnson Corp.
Midwest-Fulton Machine Co.
Stickle Steam Specialties Co.

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Black-Clawson Company
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Industrial Brownhoist Corp.
Link Belt Company
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Ross Engineering Corp., J. O.
Shartle Brothers Mch. Co.

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Suburban Machine Co.

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Hubbard Spool Co.
Rodney Hunt Machine Co.
Smith & Winchester Mfg. Co.
Sonoco Products Co.
Walker-Goulard-Plehn Co.

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E. D. Jones & Sons Co.
Link Belt Company
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John

Cranes
Cleveland Crane & Engrg. Co.
Industrial Brownhoist Corp.
Link Belt Company
Whiting Corp.

Cup and Container Machines
Mercury Engrg. Corp.

Cutters
Dilts Machine Works
Gibbs-Brower Company, Inc
Thomas W. Hall Co.
Moore & White Co.
Perkins & Son, Inc., B. F.
The Smith & Winchester Mfg. Co.
Taylor Stiles & Co.

to Buy

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M. W. Jenkins Sons, Inc.
National Tube Co.

Dampeners
Perkins & Son, Inc., B. F.
Valley Iron Works Co.

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Adell Chemical Company

Deckle Webbing
Williams-Gray Co.

De-Inking
Adell Chemical Company
Dilts Machine Works
General Dyestuff Corp.
Kinsley Chemical Co.
Roderick O'Donoghue
Shartle Brothers Machine Co

Deinking Chemicals
Adell Chemical Company
E. I. Du Pont De Nemours & Co., Inc., Pigments Dept.
General Dyestuff Corp.
Kinsley Chemical Co.
Midwest-Fulton Machine Co.
Monsanto Chemical Company
Philadelphia Quartz Co.

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W. & L. E. Gurley

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Ebasco Services

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Calgon, Inc.
Cowles Chemical Co.
General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

Dewaxing Chemicals
Adell Chemical Company
General Dyestuff Corp.
Nopco Chemical Co.

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Babcock & Wilcox Co.
The Biggs Boiler Works Co.
Combustion Engrg. Co., Inc.
Foster Wheeler Corp.
Lukenweld
Pusey & Jones Corp.

Dirtee
Bird Machine Co.

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General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.

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Black-Clawson Company
Downingtown Mfg. Co.
Lobdell Co.
Lodding Engineering Corp.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

Doctor Blades
Bird Machine Company
Black-Clawson Company
Lodding Engrg. Corp.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Downingtown Mfg. Co.
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Hardinge Company, Inc.
Lukenweld
The Moore & White Co.
Murray Mfg. Co., D. J.
J. J. Ross Company
Red-Ray Mfg. Co., Inc.
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.
The Youngstown Welding & Engrg. Co.

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Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Bird Machine Co.
Black-Clawson Company
Chain Belt Company
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Dilts Machine Works
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Farrel-Birmingham Co.
General Electric Company
Gibbs-Brower Company, Inc.
Rodney Hunt Machine Co.
Link Belt Company
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Syco Mfg. Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

Dryer Drainage
Midwest-Fulton Machine Co.
Stickle Steam Specialties Co.

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Downingtown Mfg. Co.
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M. W. Jenkins Sons, Inc.
E. D. Jones & Son Co.
Moore & White Co.
D. J. Murray Mfg. Co.
John Waldron Corp.

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Ciba Company
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C. K. Williams & Co.
Witco Chemical Co.

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Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

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Swenson Evaporator Co., Div of Whiting Corp.

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General Electric Co.
B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O.

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Merrick Scale Mfg. Co.
Leeds & Northrup

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Asten-Hill Mfg. Co.
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Huyck & Son, F. C.
Lockport Felt Co.
Mt. Vernon-Woodbury Mills Inc.
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NEW HIGH-PRECISION BAUER PULPER

MATERIALS
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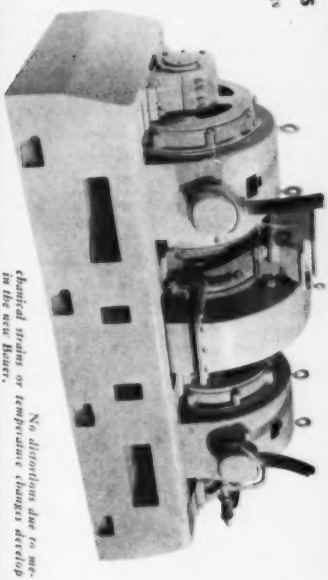
Sulphite screenings
Kraft screenings
Steamed wood at atmospheric pressure
Steamed wood at elevated pressures
Semi-Chemical pulp
Waste paper
Straw pulp
Asplund fiber
Untreated (green) wood chips
Bagasse



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End products now being produced from a wide range of materials after defiberization in Bauer disk pulpers.

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- WALL BOARD
- TISSUES
- TOWELING
- NEWSPRINT
- ROOFING FELT
- LINOLEUM FELT
- SPECIALTIES

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- On de-inking of old papers

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THE BAUER BROS. CO., SPRINGFIELD, OHIO

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NU-NAP

FELT WASHING DETERGENT

Cowles NU-NAP contains a new combination of products and a brand new idea in detergent action. NU-NAP does an outstanding washing job on paper machine felts—both on and off the machine NU-NAP will give extra life to your felts—it leaves them unusually clean—fluffy and absorbent.

Use NU-NAP for dependable—safe—free rinsing felt washing.

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Waldron Corp., John

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A. M. Meincke & Son, Inc.
Vanderbilt Co., R. T.
Witco Chemical Co.

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Hardinge Company, Inc.
Johnson Corp.
Moore & White Co.
J. O. Ross Engrg. Corp.
Witco Chemical Co.
Walworth Company

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Ladish Company
Phoenix Products Co.
Walworth Company

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Ajax Flexible Coupling Co.

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Oliver United Filters, Inc.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Testing Machines, Inc.

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Moore & White Co.
D. J. Murray Mfg. Co.
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Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Suburban Machine Co.
Valley Iron Works Co.
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Westinghouse Electric Corp.

Grinders
Carthage Machine Co.
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc.
Lobdell Co.
Norton Company
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Works

Grinding Wheels
Norton Company

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The Moore & White Co.
Mount Hope Machinery Co.
Bound Brook Engrg. Co.

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National Starch Products Inc.
Stein-Hall Co., Inc.

Where

Heads
Babcock & Wilcox Co.
Lukens Steel Company

Heat Exchangers and Recovery Systems
William Allen Son's Company
Foster Wheeler Corp.
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Stickle Steam Specialties Co.
Westinghouse Electric Corp.

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Armstrong Machine Works
Cochrane Corp.
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General Electric Co.
Leeds & Northrup
Minneapolis-Honeywell Regulator Co.
D. J. Murray Mfg. Co.
Red-Ray Mfg. Co., Inc.
Ross Engineering Corp., J. O.
Stickle Steam Specialties Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

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Industrial Tractors
Clark Equipt. Co., Clark Trac-tractor Div.
Towmotor Corp.

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Gotham Ink & Color Co.

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The Bristol Company
The Brown Instrument Co.
Cochrane Corp.
The Foxboro Company
General Electric Company
W. & L. E. Gurley
Leeds & Northrup Company
National Technical Laboratories
B. F. Perkins & Son
Taylor Instrument Cos.
Testing Machines, Inc.
Williams Apparatus Co., Inc.

Joints
Johnson Corp.
Perfecting Service Corp.

Jordan Fillings
Appleton Machine Co.
Bahr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

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Black-Clawson Company
Dilts Machine Works, Inc.
Hamblet Machine Co.
Heppenstall Company
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The Moore & White Co.
Taylor Stiles & Co.
Valley Iron Works Co.

Knot Boring Machines
DeZurik Shower Company

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Timber Engrg. Co.

Laboratory Equipment
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Bauer Brothers Co.
The Biggs Boiler Works Co.
Bird Machine Company
Dilts Machine Works
W. & L. E. Gurley
E. D. Jones & Sons Co.
Leeds & Northrup Company
National Technical Laboratories
Taylor Instrument Companies
Testing Machines, Inc.
Valley Iron Works Co.

to Buy

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Moore & White Co.
Suburban Machine Co.

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Socony-Vacuum Oil Co.
Sun Oil Company
The Texas Company
Tide Water Associated Oil Co.

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The Wellman Engrg. Co.

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Farrel-Birmingham Co.
Montague Machine Co.
Lobdell Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

Moisture Content Control
Askania Regulator Company
Midwest-Fulton Machine Co.
Stickle Steam Specialties Co.

Motors and Generators
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Chicago Electric Company
Fairbanks, Morse & Co.
General Electric Company
Ingersoll-Rand Co.
Reliance Electric & Engrg. Co.

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The International Nickel Co.

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Link Belt Company

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The Moore & White Co.
Perfecting Service Corp.
Shartle Brothers Machine Co.

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American Marietta Co., Valdura Division

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Bagley & Sewall Co.
Black-Clawson Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Lukenweld
Moore & White Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

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Black-Clawson Company
E. D. Jones & Sons Co.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Valley Iron Works Co.

Paper Tube Machinery
Dietz Machine Works
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson Sharp Machine Co.
Langston Co., Samuel M.
Suburban Machine Co.

Pasting Machines
Black-Clawson Company
Davis, Frank H., Co.
Dilts Machine Wks.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John

Penstocks
The Biggs Boiler Works Co.

Perforated Metal
Allis-Chalmers Mfg. Co.

Pipe
American Cast Iron Pipe Co.
Armco Drainage & Metal Products, Inc.
Babcock & Wilcox Co.
Crane Company
Ladish Company
Michigan Pipe Co.
Michigan Steel Casting Co.
National Tube Co.
Walworth Company
Youngstown Welding & Engrg Co.

Pipe Fittings
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The American Rolling Mill Co.
Crane Company
Ladish Company
Michigan Steel Casting Co.
Phoenix Products Co.
Walworth Co.

Pipe Markers
W. H. Brady Co.

Pitch Control
General Dyestuff Corp.
Monsanto Chemical Company
Rohm & Haas Co.

Platers
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Perkins & Son, Inc., B. F.

Plates
Armco Steel Corp.
Babcock & Wilcox Co.
The Biggs Boiler Works Co.
J. O. Ross Engrg. Corp.
Lukenweld
Lukens Steel Company
Timken Roller Bearing Co.

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Black-Clawson Company
E. D. Jones & Sons Co.
Shartle Brothers Machine Co.

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Testing Machines, Inc.

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General Dyestuff Corp.

Pressure Vessels, Steel and Alloy
William Allen Son's Company
Babcock & Wilcox Co.
The Biggs Boiler Works Co.
Combustion Engrg. Co., Inc.
Foster Wheeler Corp.
The Midvale Company

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Black-Clawson Company
Dietz Machine Works
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc
Thomas W. Hall Co.
Hudson-Sharp Machine Co.
The Moore & White Co.
Paper Converting Machine Co. Inc.
Potdevin Machine Co.
Shartle Brothers Machine Co
Valley Iron Works Co.
Waldron Corp., John
H. G. Weber & Co., Inc.
Williams Apparatus Co.

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The Bauer Bros. Co.

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Crane Company
Record Fdy. & Mach. Co
Shartle Bros. Mach. Co.

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Bauer Brothers Co.
Dilts Machine Works
Midwest-Fulton Machine Co.
Shartle Brothers Machine Co.

Pulps
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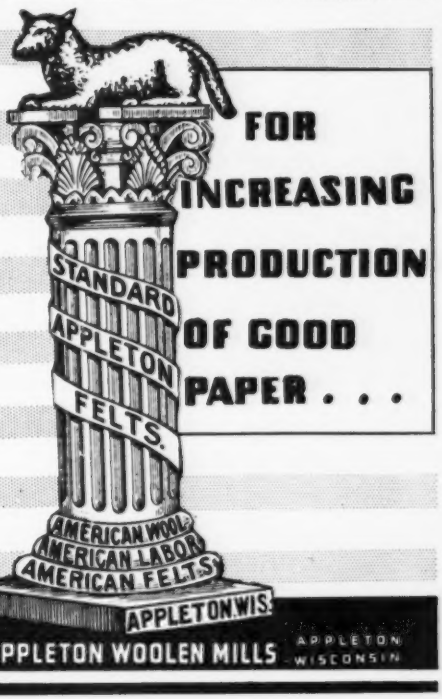

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